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COOPERATIVE

SNOW SURVEY and WATER SUPPLY FORECASTS for OREGON

UNITED STATES DEPARTMENT of AGRICULTURE···SOIL CONSERVATION SERVICE

and

OREGON AGRICULTURAL EXPERIMENT STATION

and

STATE ENGINEER of OREGON

Data included in this report were obtained by the agencies named above in cooperation with other Federal, State and private organizations.

AS OF

MAY 1, 1961

USDA-SCS-PORTLAND, OREG. 1960

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Cooperative Snow Survey and Water Supply Forecast Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Fortunately, most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from fore-knowledge of the runoff.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, about 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

By relating snow survey measurements taken over a period of years to spring-summer runoff during the same period, relationships have been developed which make it possible to forecast seasonal runoff several months in advance of occurrence. In order to make a forecast, once a forecast relationship has been developed, the maximum snow water content at previously selected key snow courses is usually entered in the forecast relationship. More accurate forecasts are often obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast relationships.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions.

PUBLISHED BY SOIL CONSERVATION SERVICE

REPORTS	ISSUED	LOCATION	COOPERATING WITH
RIVER BASINS			
Colorado and State of Utah	Monthly (Jan.-May)	Salt Lake City, Utah	Utah State Engineer and Other Agencies
Columbia	Monthly (Jan.-May)	Boise, Idaho	Idaho State Reclamation Engineer
Upper Missouri and State of Montana	Monthly (Feb.-May)	Bozeman, Montana	Mont. Agr. Exp. Station
West-Wide	Oct. 1, Apr. 1, May 1	Portland, Oregon	All Cooperators
STATES			
Alaska	Monthly (Mar.-May)	Palmer, Alaska	Alaska S.C.D.
Arizona	Semi-Monthly (Jan.15 - Apr.1)	Phoenix, Arizona	Salt R. Valley Water Users Assoc. Ariz. Agr. Exp. Station
Colorado and New Mexico	Monthly (Feb.-May)	Fort Collins, Colorado	Colo. Agr. Exp. Station Colo. State Engineer N. Mex. State Engineer
Idaho	Monthly (Feb.-May)	Boise, Idaho	Idaho State Reclamation Engineer
Nevada	Monthly (Feb.-Apr.)	Reno, Nevada	Nevada Dept. of Conservation and Natural Resources - Division of Water Resources
Oregon	Monthly (Jan.-May)	Portland, Oregon	Ore. Agr. Exp. Station Oregon State Engineer
Washington	Monthly (Feb.-May)	Spokane, Washington	Wn. State Dept. of Conservation
Wyoming	Monthly (Feb.-June)	Casper, Wyoming	Wyoming State Engineer

Copies of these various reports may be secured from: Head, Water Supply Forecasting Section
Soil Conservation Service.
209 S. W. Fifth Ave., Portland 4, Oregon

PUBLISHED BY OTHER AGENCIES

REPORTS	ISSUED	AGENCY
British Columbia	Monthly (Feb.-June)	Comptroller, Water Rights Br., Dept. of Lands and Forests, Parliament Bldg., Victoria, B.C., Canada
California	Monthly (Feb.-May)	Calif. Dept. of Water Resources, Sacramento, Calif.

FEDERAL - STATE - PRIVATE

COOPERATIVE

SNOW SURVEY and WATER SUPPLY FORECASTS for OREGON

ISSUED

MAY 8, 1961

Report prepared by

W. T. FROST, Snow Survey Supervisor

and

BOB L. WHALEY, Assistant Snow Survey Supervisor

SOIL CONSERVATION SERVICE
209 S.W. 5TH AVE., PORTLAND 4, OREGON

Issued by

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OREGON AGRICULTURAL
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STATE OF OREGON

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UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY..... AREA 3

UPPER JOHN DAY..... AREA 4

UPPER DESCHUTES, CROOKED..... AREA 5

HOOD, MILE CREEKS, LOWER DESCHUTES..... AREA 6

LOWER COLUMBIA..... AREA 7

WILLAMETTE..... AREA 8

ROGUE, UMPQUA..... AREA 9

KLAMATH..... AREA 10

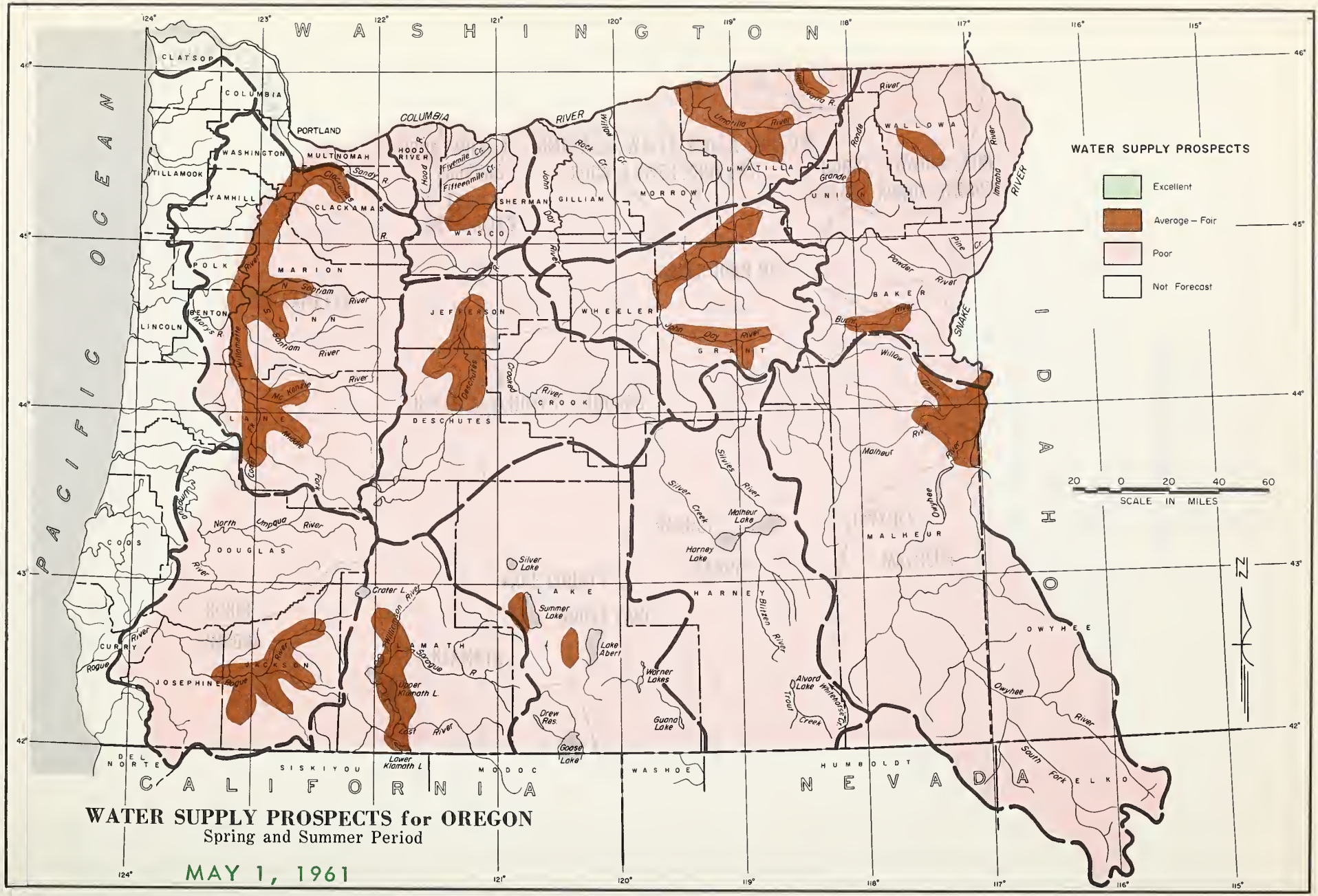
LAKE COUNTY, GOOSE LAKE..... AREA 11

HARNEY BASIN..... AREA 12

MAP AND INDEX OF OREGON SNOW COURSES.....(MAP)

LIST OF COOPERATORS.....INSIDE BACK COVER

USDA SCS PORTLAND, OREG 1959 M-1877



WATER SUPPLY PROSPECTS for OREGON

Spring and Summer Period

MAY 1, 1961

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

7-O-19102-1-L

WATER SUPPLY OUTLOOK for OREGON

MAY 1, 1961

Oregon's 1961 water supply outlook changed slightly during April. The northern third of the state improved a little and remains "fair" to "near average". Forecasts dropped even lower in the southern two-thirds of the state and the outlook there is now "fair" to "poor". Water supply forecasts for the April-September period now range from 20 percent of average for the inflow to Clear Lake, which serves Lost River water users, to 91 percent for Catherine Creek near Union. Reservoir "carryover" storage will be at or near an all time low this fall in many areas of the state.

SNOW COVER:

Water content of the snowpack now averages 57 percent on a statewide basis. The Owyhee-Malheur Basin has the poorest snow cover with only 20 percent of average while the Lower Deschutes-Hood River area is 76 percent of the 1943-57 May 1st average. The lack of low elevation snow this year has been very evident in below normal March and April streamflow east of the Cascades.

SOIL MOISTURE:

Below normal April precipitation in the southeastern third of the state, coupled with drying winds in many areas, has already started robbing the soil of moisture. The top foot of soil has lost much of its moisture during the last month in Malheur, Harney, Lake and Klamath Counties.

RESERVOIR STORAGE:

Water stored in 23 reservoirs serving the state now averages 89 percent of last year at this time and 83 percent of the 1943-57 May 1st average. Low April streamflow in many areas did not produce the usual good increases in storage in many reservoirs. Some of these, such as Owyhee, Warmsprings, Agency Valley, Gerber, Clear Lake, Drews Valley, Fourmile and Fish Lake, will likely have the lowest "carryover" storage in many years.

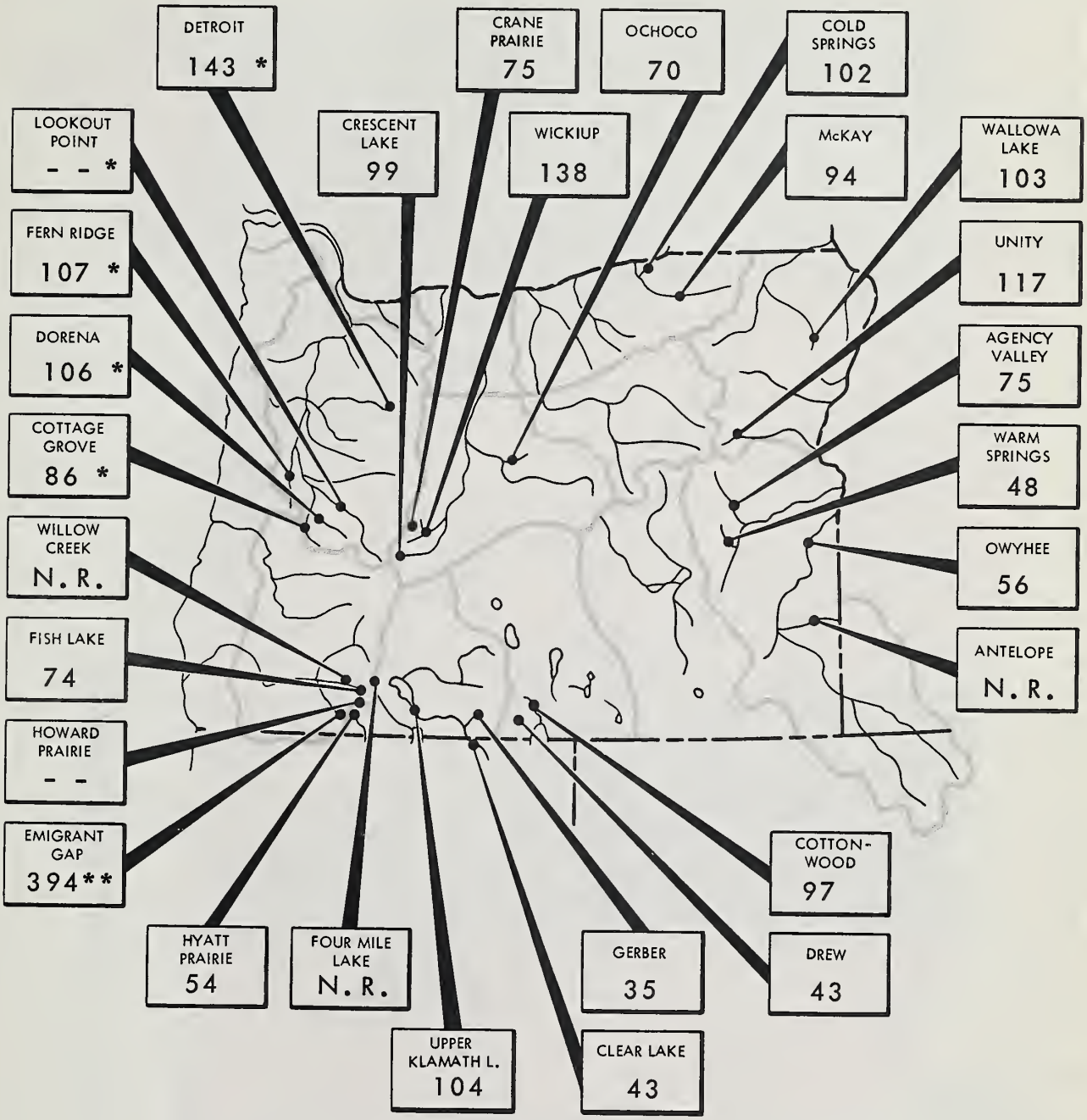
STREAMFLOW:

Streamflow forecasts dropped even lower in the already low areas and raised only slightly in the better areas of the northern third of the state.

Forecasts for the April-September period now range from 20 percent of average for the inflow to Clear Lake to 91 percent for Catherine Creek. Other "short" forecasts include the Owyhee Reservoir inflow (26 percent), Drews Reservoir inflow (26 percent), Ochoco Reservoir inflow (34 percent), Gerber Reservoir (28 percent), Silvies River (42 percent), and the Malheur River at Drewsey (47 percent).

STORAGE STATUS of OREGON RESERVOIRS
as percent of 1943-57, 15 year average

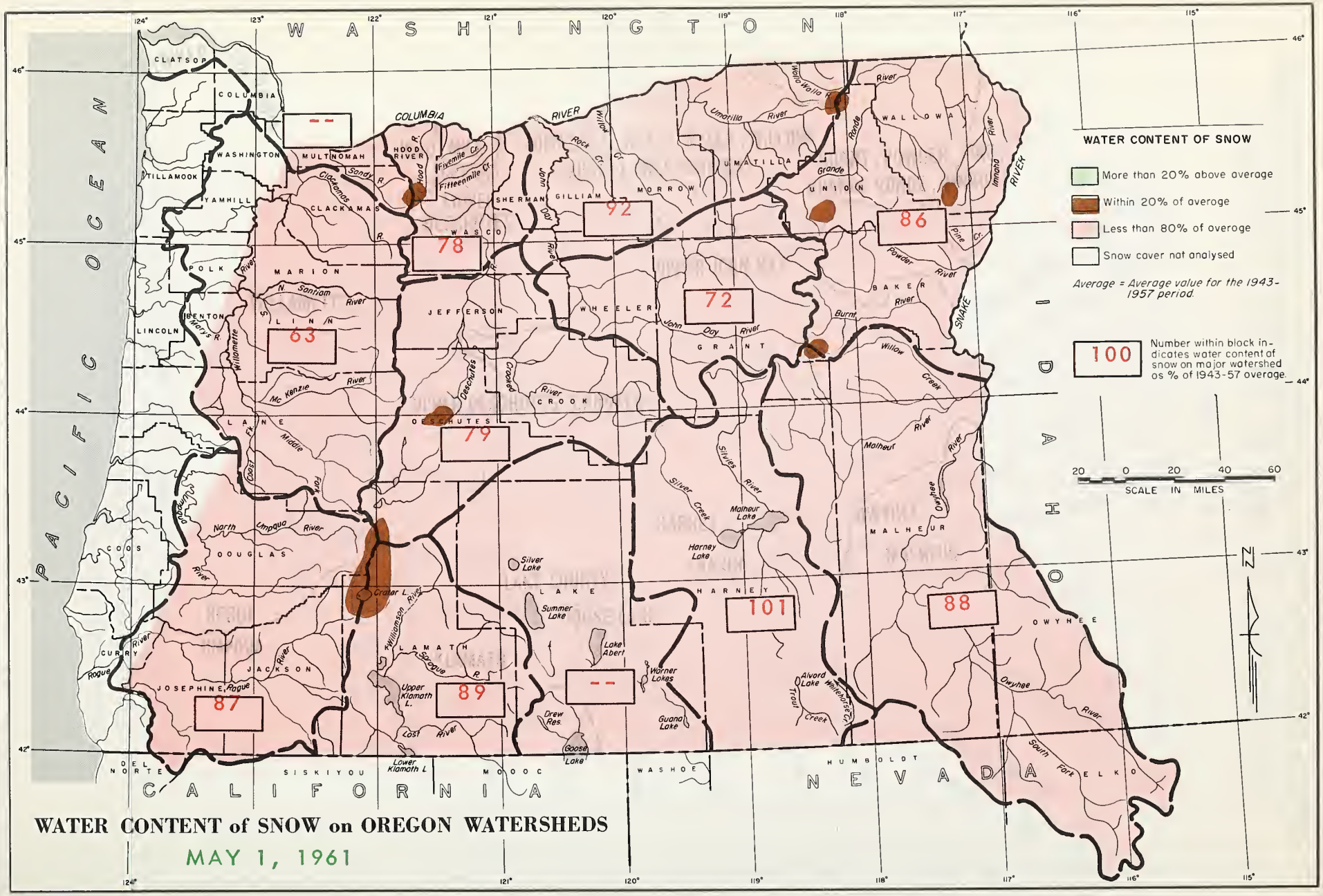
MAY 1, 1961



**- Multiple purpose reservoir - space reserved primarily for flood runoff.*
N.R. - No report.

** - Capacity of reservoir greatly increased but current storage compared with previous average.

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE



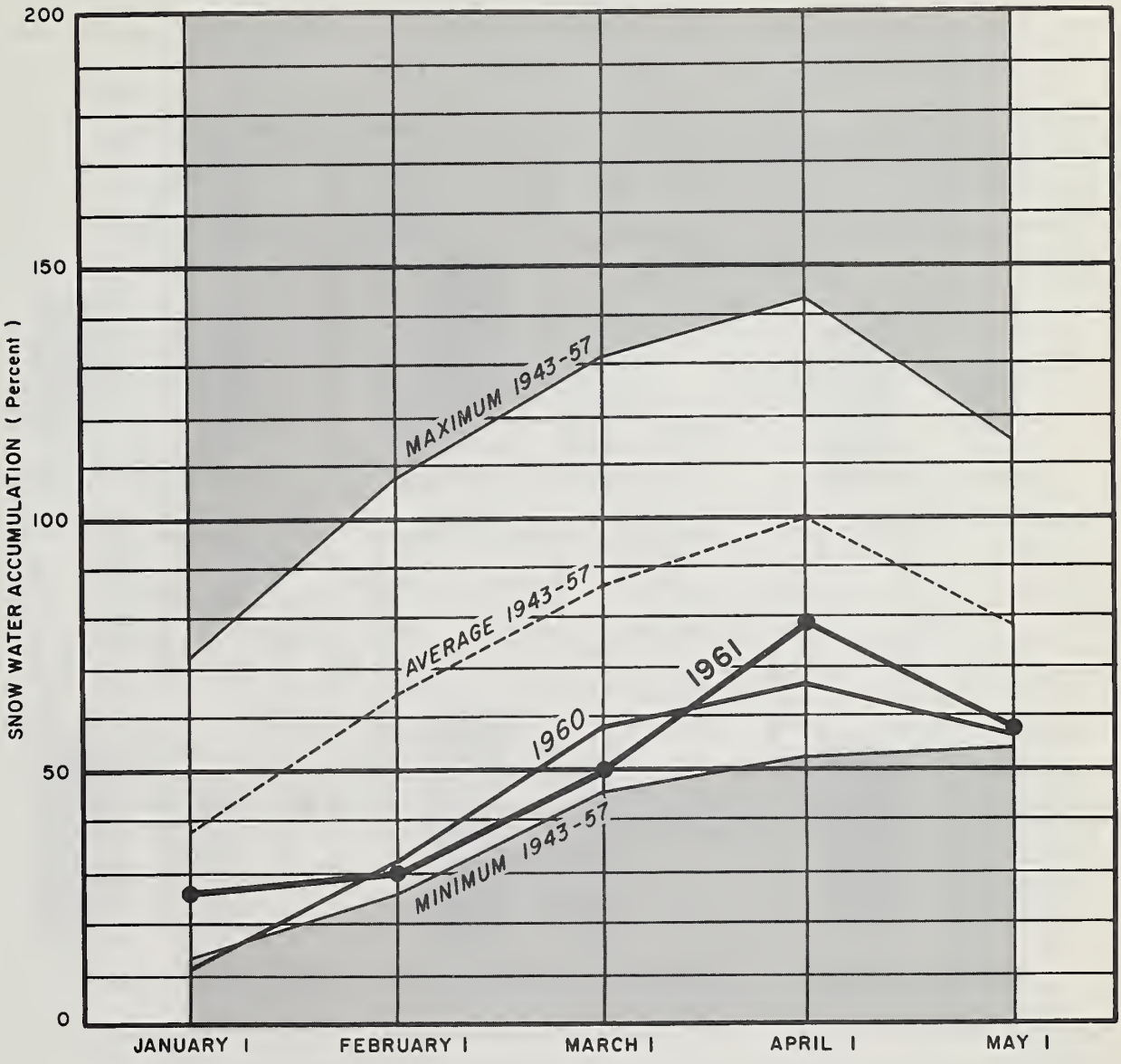
WATER CONTENT of SNOW on OREGON WATERSHEDS

MAY 1, 1961

7-0-19102-2-L

SNOW WATER ACCUMULATION in OREGON

MAY 1, 1961

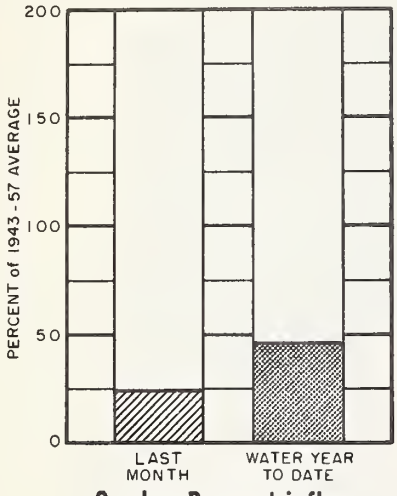


The snowpack melted at about the average rate during April, receding 22 percent statewide. Snow accumulation now stands at 57 percent of an average year on May 1st.

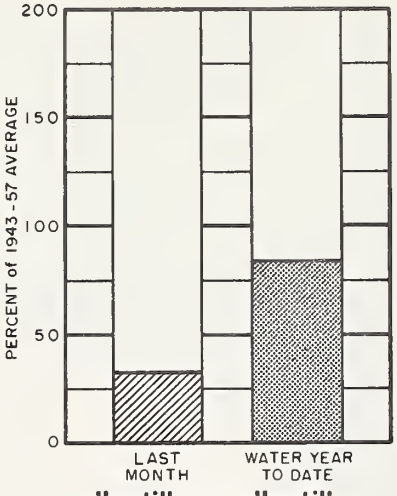
This still leaves the state "snow crop" about 21 percent below average for this time of year.

CURRENT OREGON STREAMFLOW

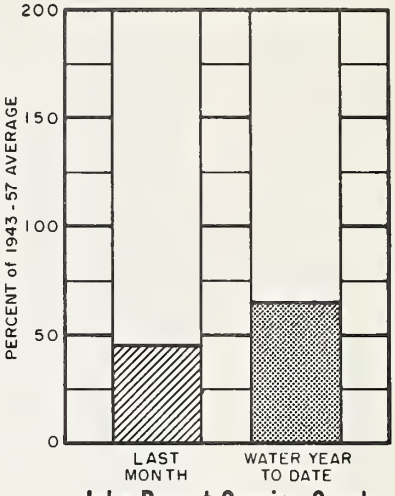
MAY 1, 1961



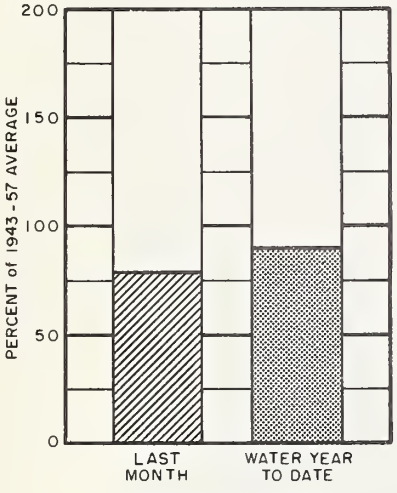
Owyhee Res. net inflow



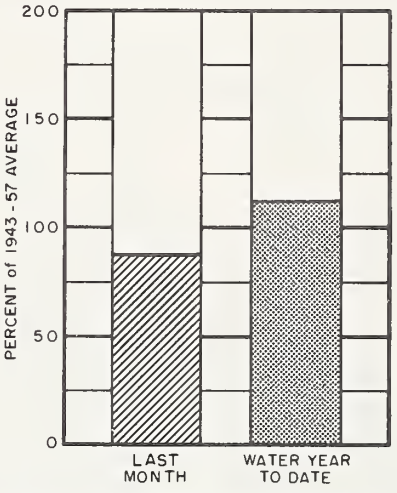
Umatilla near Umatilla



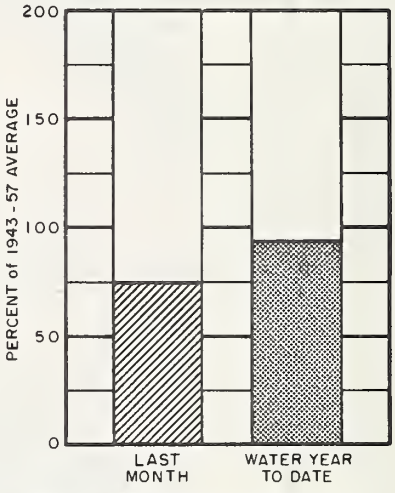
John Day at Service Creek



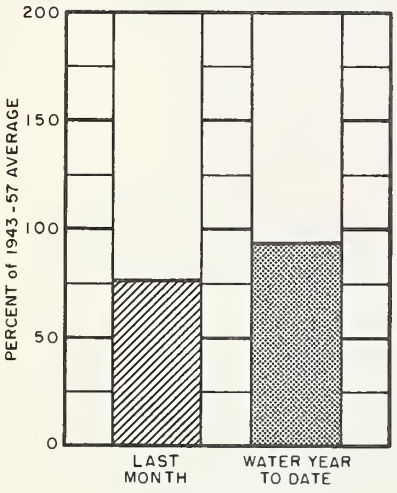
Deschutes at Moody



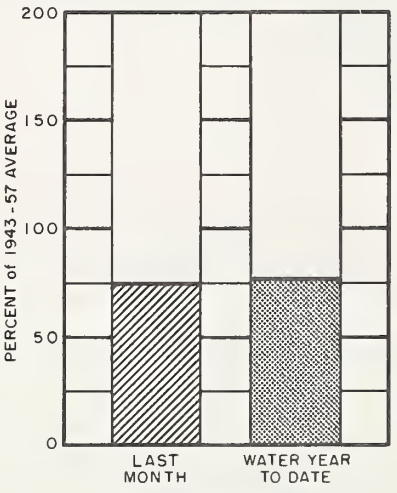
Hood and conduit near Hood River



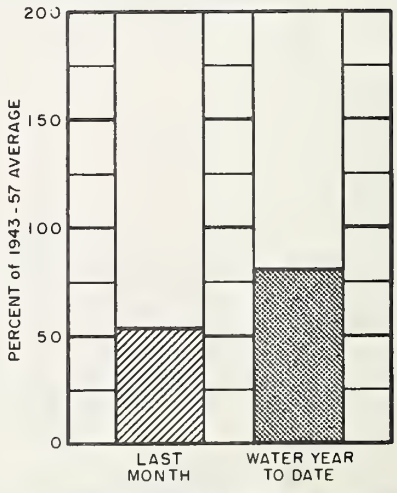
Mid. Fk. Willamette below No. Fk.



Umpqua near Elkton



Rogue at Raygold

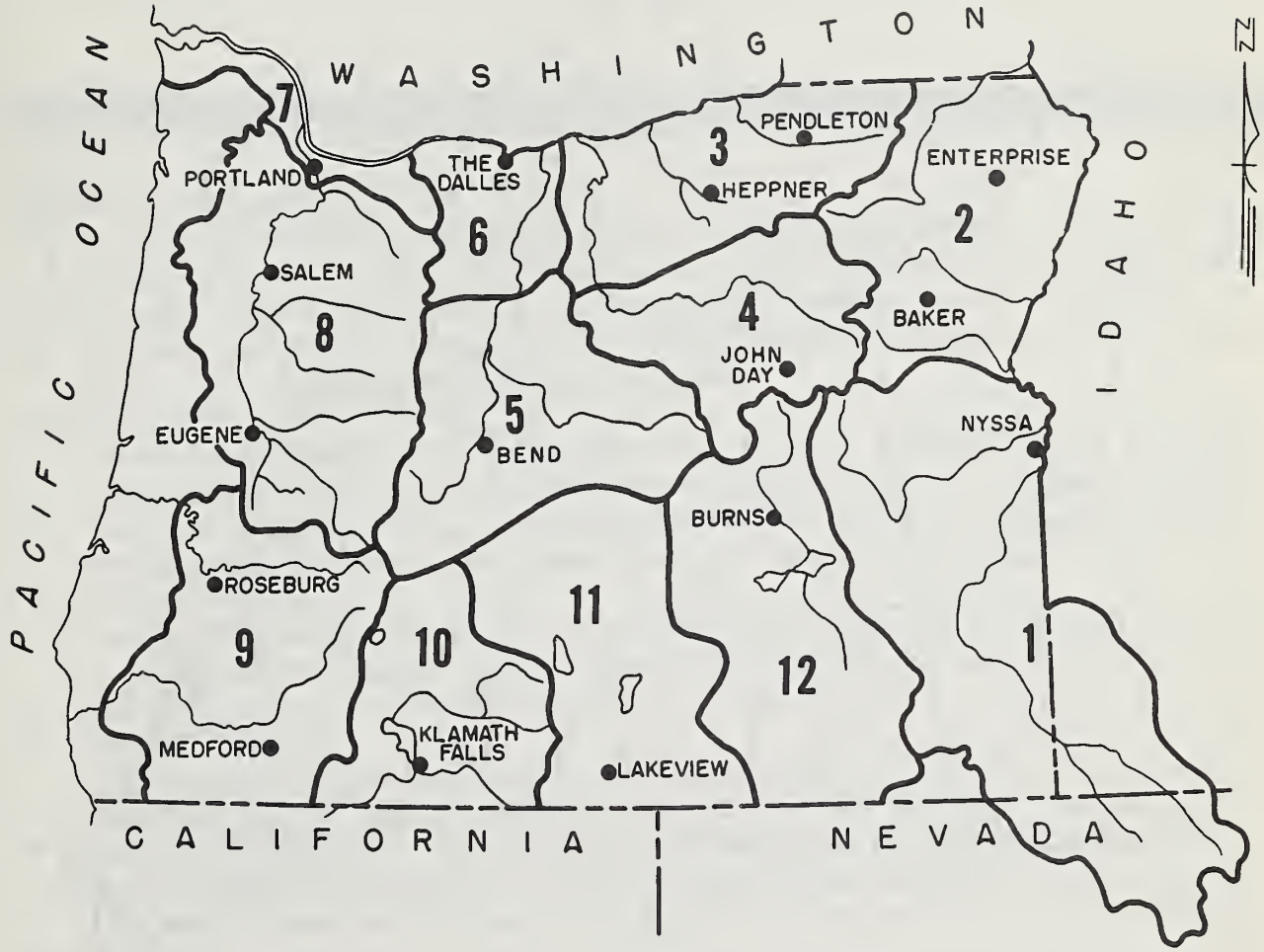


Upper Klamath Lake net inflow

Data furnished by U.S. Geological Survey; The California Oregon Power Co.; and North and South Boards of Control Owyhee Project.

VALLEY PRECIPITATION in OREGON [a]

MAY 1, 1961

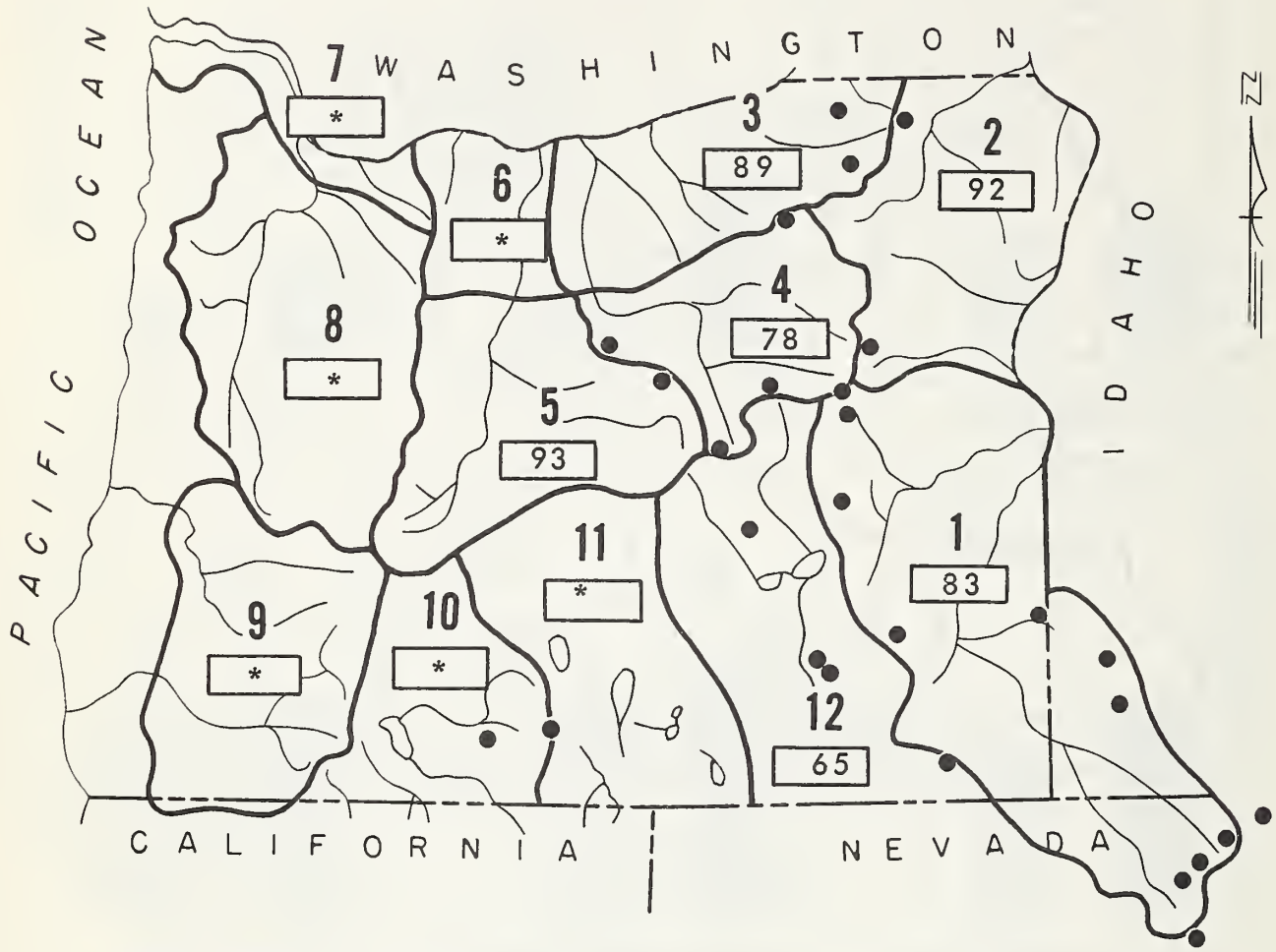


PRECIPITATION as PERCENT of the 1943-57 AVERAGE					
STATION	LAST MONTH	WATER YEAR TO DATE [b]	STATION	LAST MONTH	WATER YEAR TO DATE [b]
Baker KBKR	43	97	Lakeview	40	77
Bend	32	96	Medford Apt.	105	85
Burns	29	81	Nyssa	6	86
Enterprise	83	82	Pendleton Apt.	109	108
Eugene Apt.	68	118	Portland Apt.	177	113
Heppner	74	108	Roseburg Apt.	46	100
John Day	46	82	Salem Apt.	144	115
Klamath Falls Apt.	36	85	The Dalles	133	110

(a) Preliminary data furnished by the U.S. Weather Bureau. (b) Oct. 1 to date. (c) Report delayed.

MOUNTAIN SOIL MOISTURE in OREGON
as percent of available capacity

MAY 1, 1961



● Soil Moisture Station

**Moisture studies not yet developed in these areas.*

WATER SUPPLY OUTLOOK
OWYHEE, MALHEUR WATERSHEDS
OREGON

as of
MAY 1, 1961

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE . OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

An already "short" irrigation water outlook for Owyhee and Malheur River water users looks even "shorter" after a cool, dry April. Little or no precipitation, coupled with a lack of low elevation snow, seriously restricted streamflow during the month. It is believed that Malheur County streams have already passed their peak and that the rate of flow will fall off rapidly in the next 30 days.

SNOW COVER

Storms were few and carried little moisture during April. Snow fell only at the highest elevations and then not in enough quantity to offset the water evaporated from the snowpack by drying winds. The remaining snowpack is all above 5900 feet in elevation and the area covered is relatively small this high on the watershed.

SOIL MOISTURE

Soil moisture suffered during April as a result of most of the watershed being exposed to drying winds. Only the highest elevations now have a snow cover to help protect the soil mantle from this evaporation loss.

RESERVOIR STORAGE

Stored water supplies are much lower than last year at this time. The Owyhee now holds 344,200 acre feet, compared with the 521,500 acre feet May 1 last year and the 323,700 acre feet it held on May 1, 1955 which was the lowest of recent years. Agency Valley and Warmsprings Reservoirs together hold 108,400 acre feet compared with 187,000 acre feet last year at this time and 79,700 acre feet on May 1, 1955.

STREAMFLOW

Streamflow during April was far below normal and forecasts of streamflow for the April-September period now range from 26 percent on the Owyhee up to 56 percent on the Malheur near Drewsey.

Malheur County streams are expected to flow much less than last year although not as low as the "short" flows of the 1959 irrigation season. Warmsprings and Agency Valley Reservoirs combined are expected to have a little more water this irrigation season than in 1955 but much less than last year or in 1959. Owyhee Reservoir is expected to have less usable water this year than even the "short" 1955 irrigation season.

Carry-over storage this fall will likely be the shortest in many years. Irrigators should consider methods which will result in maximum efficiency and conserve as much water as possible for next year.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Boulder Creek	Fair	Poor
Bully Creek	Fair	Poor
Cow Creek	Fair	Poor
Jordan Creek	Fair	Poor
Jordan Valley Irrig. Dist.	Fair	Poor
McDermitt Creek	Fair	Poor
Oregon Canyon Creek	Fair	Poor
Owyhee Project	Fair	Fair
Sucker Creek	Fair	Poor
Ten Mile Creek	Fair	Poor
Vale, Oregon Irrig. Dist.	Fair	Fair
Warmsprings Irrig. Dist.	Fair	Fair
Willow Creek	Fair	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Agency Valley	60.0	40.5	56.1	54.0
Antelope	55.0	*f*	40.1	29.8
Owyhee	715.0	344.2	521.5	617.5
Warmsprings	191.0	67.9	130.7	140.2

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

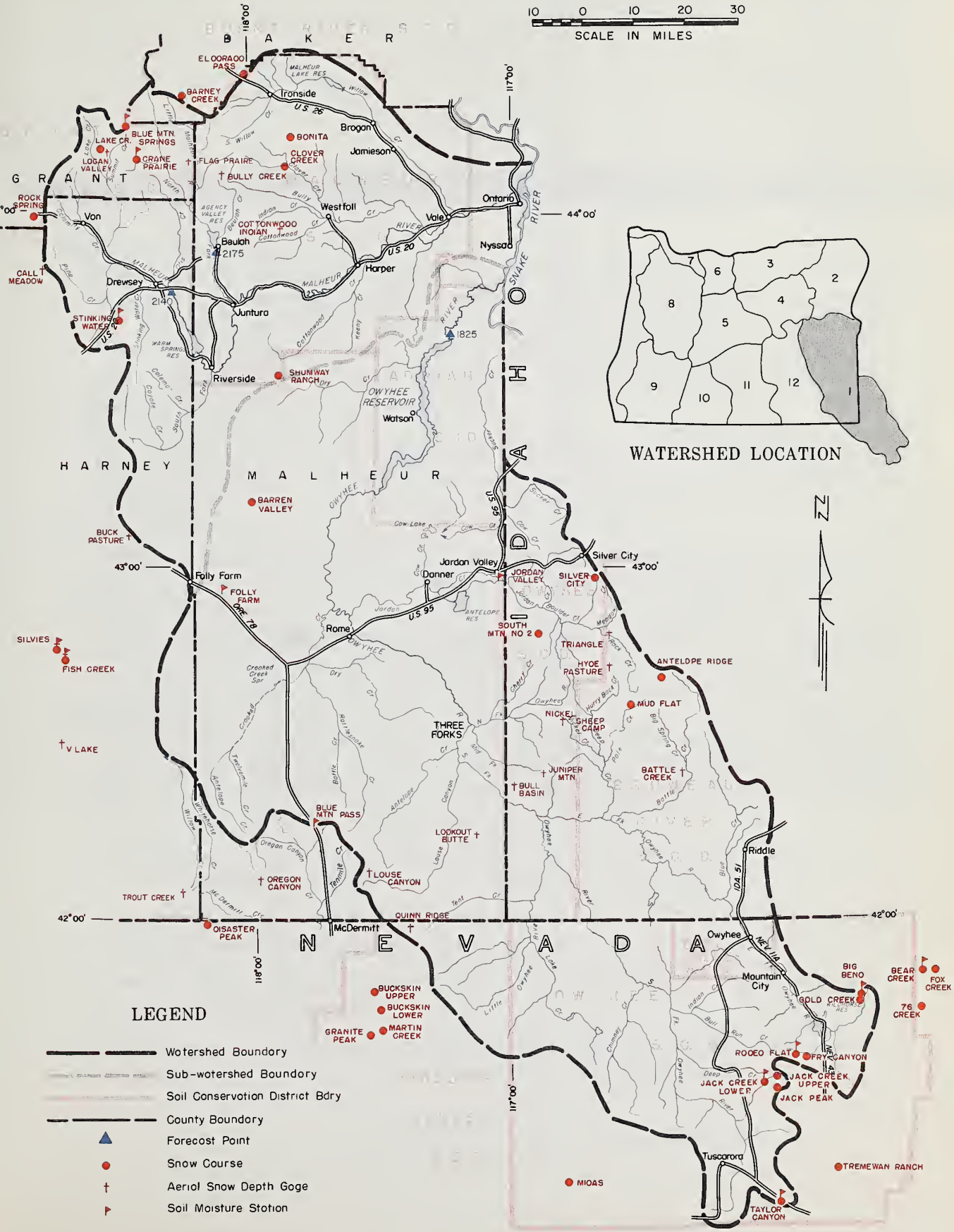
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
2140	Malheur near Drewsey	38	April-Sept.	81	47
		37	April-July	80	46
2175	Malheur, North Fork at Beulah[d]	36	April-Sept.	64	56
1825	Owyhee Reservoir net Inflow[g]	110	April-Sept.	430	26
		100	April-July	412	24

AVAILABLE SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Bear Creek (Nev.)	7800	48	5.6	*c*			
Big Bend (Nev.)	6700	48	9.6	5-2-61	9.3	- -	- -
Blue Mountain Springs	5900	42	12.0	4-27-61	6.5	8.4	9.9
Folly Farm	4450	36	8.3	*c*			
Jack Creek, Lower (Nev.)	6800	48	4.9	5-1-61	4.8	- -	- -
Jordan Valley	4250	48	9.8	*c*			
Rodeo Flat (Nev.)	6800	42	6.0	5-2-61	6.0	- -	- -
Stinking Water Summit	4800	48	11.7	*c*			
Taylor Canyon (Nev.)	6200	48	9.7	5-1-61	8.4	- -	- -

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) USBR records of inflow. (h) Not surveyed. (i) Nearest current data.

OWYHEE, MALHEUR WATERSHEDS



Owyhee, Malheur Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD		
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)		YEARS IN AVERAGE[b]
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE	
Antelope Ridge	5900	c					
Barney Creek	5950	c					
Battle Creek [e]	5700	c					
Bear Creek	7800	5/2	0	0.0	18.3	- -	3
Big Bend	6700	5/2	0	0.0	0.0	- -	2
Blue Mountain Spring	5900	4/27	23	8.4	5.7	5.8	5
Buckskin, Lower	6700	c					
Buckskin, Upper	7200	c					
Bull Basin [e]	5600	c					
Bully Creek [e]	5300	c					
Call Meadows [e]	5340	c					
Clover Creek	4100	c					
Cottonwood-Indian [e]	4320	c					
Crane Prairie	5375	c					
Disaster Peak	6500	c					
Eldorado Pass	4600	f					
Fish Creek	7900	c					
Flag Prairie [e]	4750	c					
Fox Creek	6800	5/2	0	0.0	1.1	- -	3
Fry Canyon	6700	5/2	0	0.0	0.0	- -	2
Gold Creek	6600	5/2	0	0.0	0.0	- -	2
Granite Peak	7800	c					
Hyde Pasture [e]	5800	c					
Jack Creek, Lower	6800	5/1	0	0.0	0.0	- -	2
Jack Creek, Upper	7250	5/1	0	0.0	T	- -	3
Jack Peak	8420	5/1	56	22.3	28.4	- -	1
Juniper Mountain [e] (Red Canyon)	6500	c					
Lake Creek	5120	c					
Logan Valley [e]	5100	c					
Lookout Butte [e]	5650	c					
Louse Canyon [e]	6440	c					
Martin Creek	6700	c					
Midas	7200	c					
Mud Flat	5500	f					
Oregon Canyon [e]	6950	c					
Quinn Ridge [e]	6300	c					
Riddle Creek [e] (Buck Pasture)	5700	c					
Rock Spring	5100	f					
Rodeo Flat	6800	5/2	0	0.0	0.0	- -	2
Silver City	6400	4/29	8	2.8	4.5	6.9	10
Silvies	6900	c					
South Mountain No. 2	6340	c					
Stinking Water	4800	f					
Taylor Canyon	6200	5/2	0	0.0	0.0	- -	3
Tremewan Ranch	5700	5/2	0	0.0	0.0	- -	1
Triangle [e]	5150	c					
Trout Creek [e]	7800	c					
76 Creek	7100	c					
"V" Lake [e]	6600	c					

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS
OREGON

as of
MAY 1, 1961

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE . OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

The irrigation water supply outlook for northeastern Oregon remains "fair" to "near average". Forecasts for the Burnt and Powder Rivers and Catherine Creek dropped 18, 7 and 5 percent respectively while Wallowa streams and the Grande Ronde raised 2 to 6 percent. Storage in Unity and Wallowa Lake is above average for May 1 but inflow has fallen off during April and flows are expected to be below average for the remainder of the season.

SNOW COVER

Snow cover over the area is 130 percent of last year on May 1st but still only 86 percent of average. All snow of measurable amounts was above the 5000 foot level and the snow line is rapidly receding.

SOIL MOISTURE

Electronic soil moisture stations indicate an 8 percent increase during April and now show 92 percent of capacity for the top 3 to 4 feet of the soil mantle.

RESERVOIR STORAGE

Stored water in Unity Reservoir is about the same as last year at this time but about 117 percent of the May 1st average for the 1943-57 period. Wallowa Lake is about 103 percent of average but holds only about half as much water as last year.

STREAMFLOW

Streamflow forecasts dropped on Burnt, Powder and Catherine Creek as a result of below normal April precipitation. These streams are now expected to flow 28,000 acre feet (62 percent), 50,000 acre feet (76 percent) and 67,000 acre feet (91 percent), respectively, for the April-September period.

Forecasts for streams flowing from the north side of the Wallowas raised slightly and now range from 84 to 88 percent of average.

The forecast for the Grande Ronde at La Grande is now 160,000 acre feet for the April-September period or 79 percent of average.

Smaller streams, especially on the eastern side of the area are expected to fall off rapidly in the next few weeks.

Water supplies from reservoirs should be used as efficiently as possible to allow some carryover for next year - - - it could be drier than this one.

Report prepared by
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209 S.W. FIFTH AVENUE • PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Alder Slope	Fair	Fair
Baker Valley	Fair	Fair
Big Creek	Fair	Poor
Clover Cr. (nr. N. Powder)	Fair	Fair
Cove	Fair	Fair
Durkee	Fair	Poor
Eagle Valley	Fair	Fair
Elgin	Fair	Poor
Enterprise-Joseph	Average	Fair
Hereford-Bridgeport	Average	Fair
Imnaha River	Average	Fair
LaGrande-Island City	Fair	Poor
Lostine-Wallowa	Average	Fair
North Powder River-Wolf Cr.	Fair	Poor
Pine Valley	Fair	Fair
Powder River-Elk Creek	Fair	Poor
Summerville	Fair	Poor
Sumpter Valley	Fair	Fair
Union-Hot Lake	Average	Fair
Unity	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Unity	25.2	25.6	25.5	21.8
Wallowa Lake	37.5	19.2	35.8	18.7

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

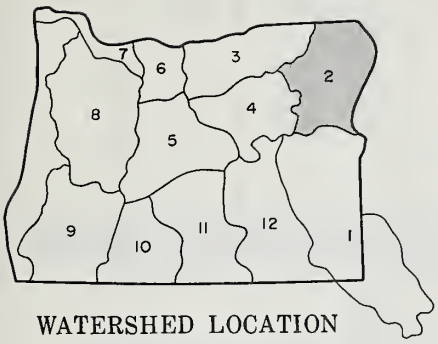
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
3305	Bear near Wallowa	64	April-Sept.	74	86
2730	Burnt near Hereford [d]	28	April-Sept.	45	62
		26	April-June	41	63
3200	Catherine near Union	67	April-Sept.	73	91
3190	Grande Ronde at La Grande	160	April-Sept.	202	79
3295	Hurricane near Joseph	43	April-Sept.	49	88
2920	Imnaha at Imnaha	265	April-Sept.	314	84
3300	Lostine near Lostine	115	April-Sept.	133	86
2755	Powder near Baker	50	April-Sept.	66	76
		49	April-July	65	75
3250	Wallowa, East Fork near Joseph [d]	10.2	April-Sept.	12.1	84
		8.2	April-July	9.7	84

AVAILABLE SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Blue Mountain Summit	5100	36	10.4	4-25-61	9.5	6.8	6.2
Emigrant Springs	3925	48	15.0	4-20-61	14.5	- -	- -
Tollgate	5070	48	17.8	4-20-61	15.8	- -	- -

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Water content partly estimated. (h) Not surveyed. (i) Nearest current data.

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS



WATERSHED LOCATION

10 0 10 20 30
SCALE IN MILES

WASHINGTON

OREGON

IDAHO

UMATILLA

UNION

WALLOWA

GRANT

BAKER

MALHEUR

46°00'

45°00'

117°00'

118°00'

TOLLGATE

MEACHAM

Elgin

Wallowa

Summerville

Enterprise

Joseph

Imnaha

La Grande

Cove

Starkey

Union

North Powder

Medical Springs

Haines

Keating

Halfway

Pine

Richland

Baker

Sumpter

Durkee

Hereford

Bridgeport

Unity

Huntington

LUCKY STRIKE

SCHOOL MARM

COUNTY LINE

BEAVER RES.

MOSS SPRINGS

BALD MTN.

ANEROID LAKE NO. 2

ANEROID LAKE NO. 1

TAYLOR GREEN

SCHNEIDER MEADOWS

LITTLE ALPS

ANTHONY LAKE

EILERTSON MEADOWS

BOURNE

GOLD CENTER

GOODRICH LAKE

TIPTON

BLUE MTN. SUMMIT

UNITY RES.

DOOLEY MTN.

BARNEY CREEK

ELDORADO PASS

3190

3305

3300

3295

3250

3200

2920

2755

2730

ORE 204

ORE 82

ORE 3

ORE 86

US 30

Wenaha R.

Grande Ronde R.

Wallowa R.

Minam R.

Lostine R.

Prairie Cr.

Hurricane Cr.

Little Sheep Creek

Big Sheep Creek

Grouse Cr.

Imnaha R.

Snake River

Powder River

Burnt River

Brownlee Reservoir

Oxbow Reservoir

Hells Canyon Reservoir

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Soil Moisture Station
- Aerial Snow Depth Gage

Burnt, Powder, Pine, Grande Ronde, Imnaha Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD		
					WATER CONTENT (Inches)		
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE	YEARS IN AVERAGE[b]
Aneroid Lake No. 1	7480	4/29	80	35.7	26.0	41.2	8
Aneroid Lake No. 2	7000	4/29	63	26.8	20.1	30.4	7
Anthony Lake	7125	4/27	66	28.0	21.5	- -	4
Bald Mountain[e] (Oregon)	6700	*f*					
Barney Creek	5950	*c*					
Beaver Reservoir	5340	4/28	16	6.1	3.1	7.3	5
Blue Mountain Summit	5098	4/26	0	0.0	0.0	1.5	7
Bourne	5800	4/26	24	8.8	7.4	- -	1
County Line	4800	*f*					
Dooley Mountain	5430	4/24	0	0.0	0.0	- -	4
Eilertson Meadows	5400	4/26	0	0.0	1.5	- -	2
Eldorado Pass	4600	*f*					
Gold Center	5340	4/26	3	1.0	0.7	- -	1
Goodrich Lake	6775	*f*					
Little Alps	6200	4/27	30	10.4	8.7	- -	0
Lucky Strike	5050	4/21	21	7.2	7.4	- -	0
Meacham	4300	4/20	1	0.6	0.0	2.6	8
Moss Spring	5850	4/26	53	20.5	15.8	- -	4
Schneider Meadows	5400	4/25	60	26.7	21.8	- -	0
Schoolmarm	4775	*f*					
Standley[e]	7400	4/25	92	38.6	- -	- -	0
Taylor Green	5740	*c*					
Tipton	5100	4/24	0	0.0	0.0	1.8	5
Tollgate	5070	4/20	47	18.9	12.6	18.1	8

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS
OREGON

as of
MAY 1, 1961

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE . OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK - The irrigation water supply outlook for Umatilla, Morrow and Gilliam Counties is still "fair" to "poor" for most users of natural streamflow. Reservoir storage has increased nicely during April and is now a little better than normal for Cold Springs and almost normal for McKay.

SNOW COVER - Snow cover is now 138 percent of last year and 92 percent of the 1943-57 average. These figures are misleading, however, since almost all of this snow is at the higher elevations, above 5000 feet, on the watersheds. The area covered by this snow is relatively small when compared to the size of the total water producing area.

SOIL MOISTURE - Electronic soil moisture stations indicate that the soil profile is now 89 percent of capacity to a depth of 4 feet. Above normal precipitation during April helped bring the soil mantle closer to capacity in this area.

RESERVOIR STORAGE - Storage in Cold Springs Reservoir is the same as last year at this time and 102 percent of the 1943-57 average. McKay now holds 62,600 acre feet or 115 percent of last year and 94 percent of average.

STREAMFLOW - The Umatilla* flowed only 32 percent of average during April and only 82 percent of average since October 1st.

Forecasts of streamflow remain the same as on April first for the April-September period. The South Fork of the Walla Walla is forecast at 61,000 acre feet (80 percent of average), the Umatilla at Pendleton 110,000 acre feet (59 percent), and the inflow to McKay is expected to be 15,000 acre feet (48 percent of the 1943-57 average).

Streamflow on the Umatilla River and McKay Creek is expected to be near half normal this year and users of stored water should make the most efficient use of their water to allow as much carryover for next year as possible - - - it may be a shorter water year than this one.

Flow of smaller creeks such as Birch, Butter, Willow, Rhea and Rock Creeks is still expected to fall off early and have less flow than in 1959.

Report prepared by
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209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Birch Creek	Fair	Poor
Butter Creek	Fair	Poor
Dry Creek	Fair	Poor
Dugger Creek	Fair	Poor
Johnson Creek	Fair	Poor
McKay Creek	Fair	Poor
Mill Creek	Fair	Fair
Mud Creek	Fair	Poor
Pine Creek	Fair	Poor
Rhea Creek	Fair	Poor
Rock Creek	Fair	Poor
Umatilla River (Cold Springs Reservoir)	Fair	Poor
Umatilla River, Main	Fair	Fair
Umatilla River (McKay Res.)	Fair	Fair
Walla Walla River, Little	Fair	Fair
Walla Walla River, Main	Fair	Fair
Walla Walla River, N. Fork	Fair	Fair
Walla Walla River, S. Fork	Fair	Fair
Willow Creek	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Cold Springs	50.0	50.0	50.0	48.8
McKay	73.8	62.6	54.4	66.4

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
0225	McKay near Pilot Rock	15	April-Sept.	31	48
		15	April-July	31	48
0200	Umatilla near Gibbon	57	April-Sept.	96	59
0210	Umatilla at Pendleton	110	April-Sept.	187	59
		109	April-July	182	60
0100	Walla Walla, South Fork near Milton	61	April-Sept.	76	80
		50	April-July	62	81

AVAILABLE SOIL MOISTURE

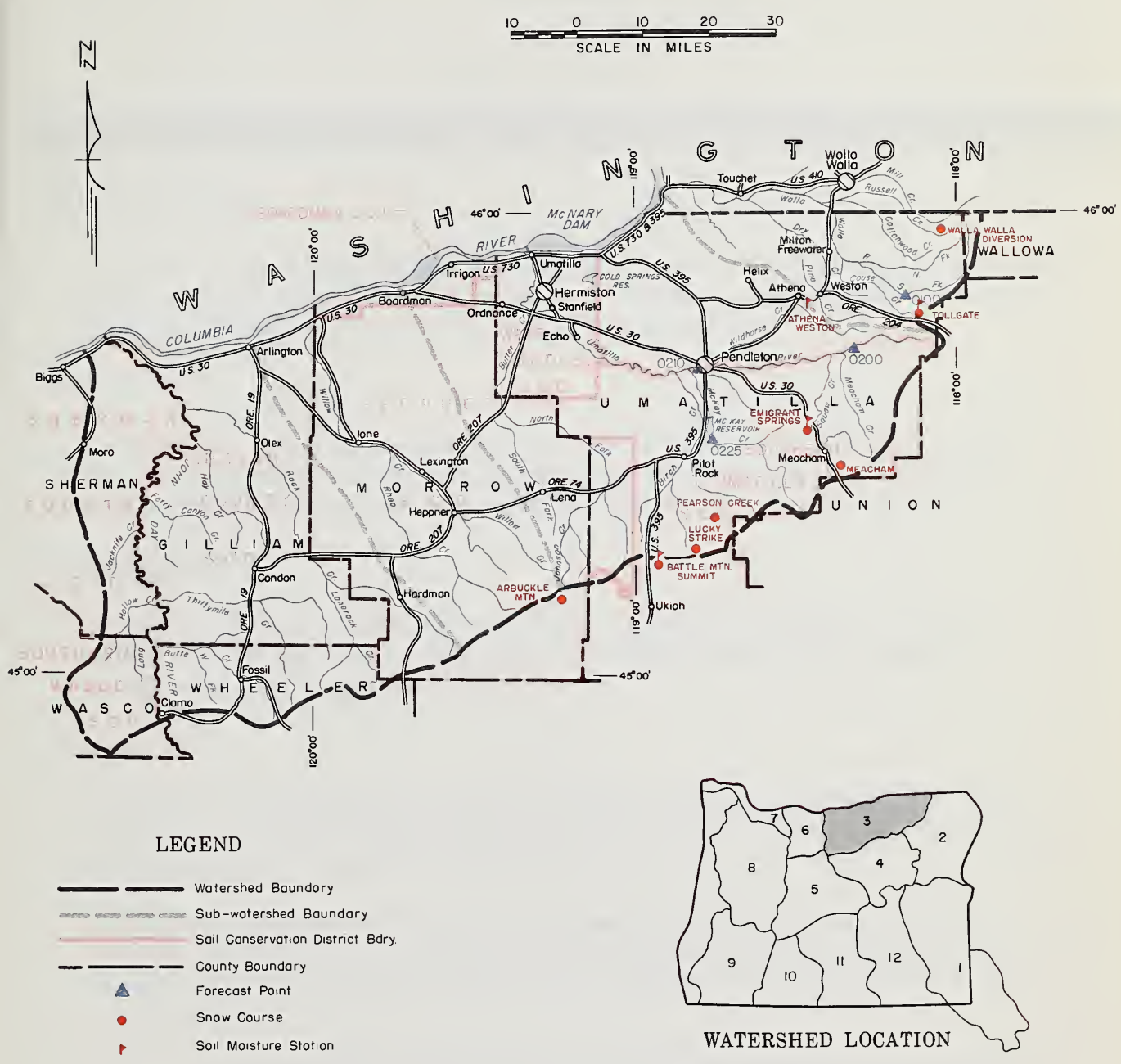
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Athena-Weston	1700	48	11.8	4-20-61	9.3	- -	- -
Battle Mountain Summit	4340	48	8.0	c			
Emigrant Springs	3925	48	15.0	4-20-61	14.5	- -	- -
Tollgate	5070	48	17.8	4-20-61	15.8	- -	- -

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD		
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)		YEARS IN AVERAGE[b]
					LAST YEAR	1943-57 AVERAGE	
Arbuckle Mountain	5400	4/26	0	0.0	0.0	- -	4
Battle Mountain Summit	4340	f					
Emigrant Springs	3925	4/20	3	1.0	0.0	1.6	8
Lucky Strike	5050	4/21	21	7.2	7.4	- -	0
Meacham	4300	4/20	1	0.6	0.0	2.6	8
Tollgate	5070	4/20	47	18.9	12.6	18.1	8

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Nearest current data.

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS



LEGEND

- Watershed Baundory
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Soil Moisture Station

WATERSHED LOCATION

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
UPPER JOHN DAY WATERSHEDS
OREGON

as of
MAY 1, 1961

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE . OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

The water supply outlook for the John Day Basin remains "fair" for the April-September period although forecasts have dropped 3 to 11 percent. April streamflow was much below normal as a result of well below normal precipitation.

SNOW COVER

Snow cover is 118 percent of last year but still only 72 percent of average for May 1st. High snow courses have held up fairly well with Blue Mountain Springs snow course indicating 47 percent more water this year than last year on May 1st.

SOIL MOISTURE

Electronic soil moisture stations now indicate 78 percent of capacity. This will probably be the maximum reading for this year unless above normal amounts of rainfall occur in the next few weeks.

STREAMFLOW

Streamflow in the basin during April was slightly less than half normal. The John Day at Service Creek* was only 45 percent of average for the month and has flowed only 64 percent of average since October 1st.

Forecasts of streamflow for the April-September period now vary from 67 percent (90,000 acre feet) for John Day at Ritter to 77 percent (7,000 acre feet) for Strawberry Creek. The John Day at Prairie City is expected to flow 38,000 acre feet (70 percent).

The flow of smaller creeks is expected to drop off rapidly during the next few weeks to a limited late season flow.

*Preliminary data furnished by U.S. Geological Survey, Portland, Oregon

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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Beech Creek	Fair	Poor
Beech Creek-Fox-Long Cr.	Fair	Poor
Bridge-Mountain Creeks	Fair	Poor
Camas Creek	Fair	Fair
Cherry Creek	Fair	Poor
Indian-Pine Creeks	Fair	Fair
John Day River, Main Fork	Fair	Fair
John Day River, Mid. Fork	Fair	Poor
John Day River, N. Fork	Fair	Poor
John Day River, S. Fork	Fair	Poor
Monument-Kimberly	Fair	Poor
Strawberry Creek	Fair	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

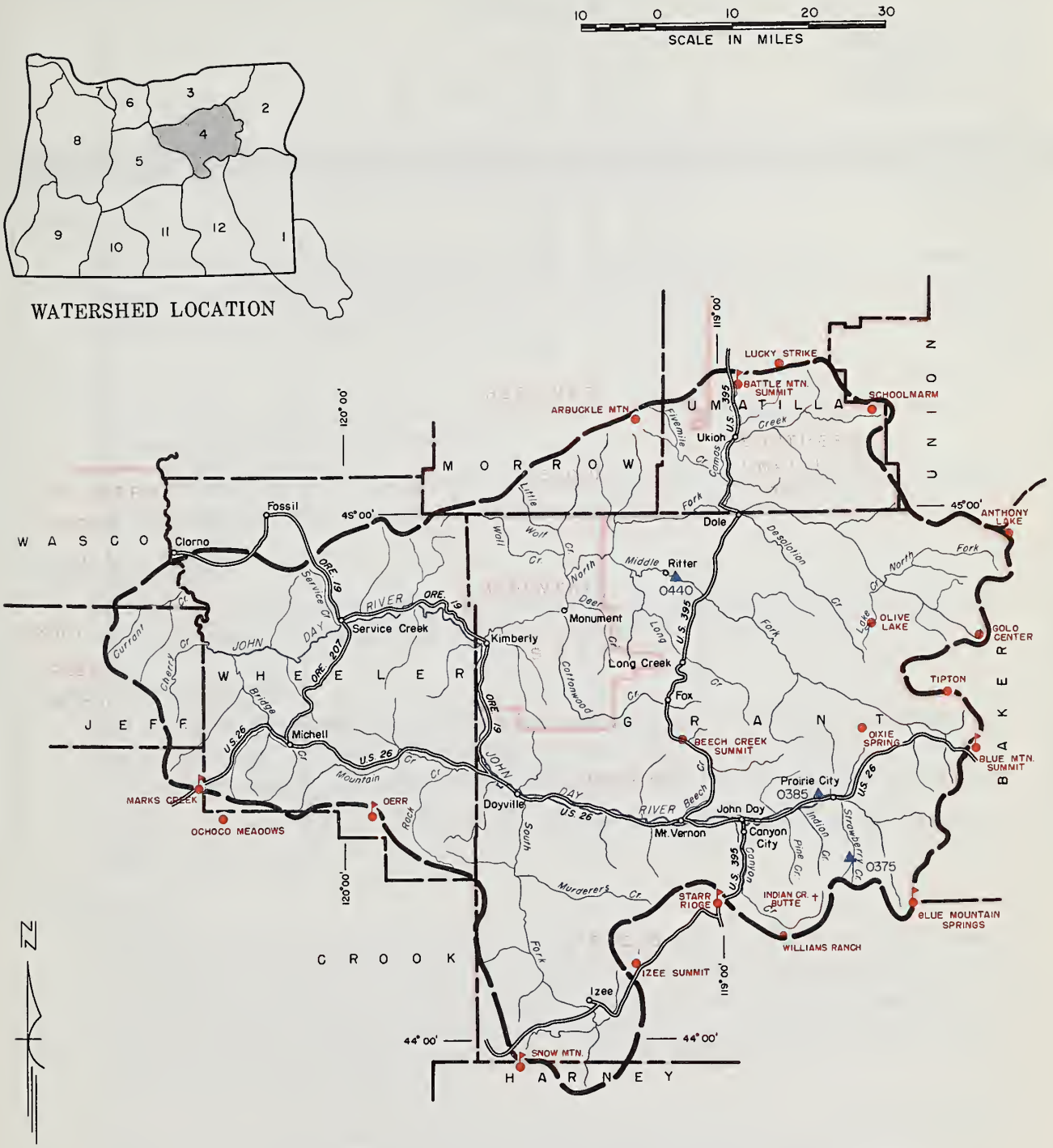
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
0385	John Day at Prairie City	38	April-Sept.	54	70
		34	April-July	49	69
0440	John Day, Middle Fork at Ritter	90	April-Sept.	135	67
		87	April-July	131	66
0375	Strawberry near Prairie City	7.0	April-Sept.	9.1	77

AVAILABLE SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Battle Mountain Summit	4340	48	8.0	[c]			
Blue Mountain Springs	5900	42	12.0	4-27-61	6.5	8.4	9.9
Blue Mountain Summit	5100	36	10.4	4-25-61	9.5	6.8	6.2
Derr	5670	24	6.0	[c]			
Marks Creek	4540	36	8.3	4-27-61	7.7	8.2	7.5
Snow Mountain	6300	48	10.4	[c]			
Starr Ridge	5150	36	6.1	4-27-61	5.2	5.8	5.8

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not surveyed. (h) Nearest current data.

UPPER JOHN DAY WATERSHEDS



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Soil Moisture Station
- Aerial Snow Depth Gage

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD		
					WATER CONTENT (Inches)		
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE	YEARS IN AVERAGE[b]
Anthony Lake	7125	4/27	66	28.0	21.5	- -	4
Arbuckle Mountain	5400	4/26	0	0.0	0.0	- -	4
Battle Mountain Summit	4340	*f*					
Beech Creek Summit	4800	4/26	0	0.0	0.0	- -	4
Blue Mountain Spring	5900	4/27	23	8.4	5.7	5.8	5
Blue Mountain Summit	5098	4/26	0	0.0	0.0	1.5	7
Derr	5670	*c*					
Dixie Springs	6650	*c*					
Gold Center	5340	4/26	3	1.0	0.7	- -	1
Indian Creek Butte [e]	6550	*c*					
Izee Summit	5293	4/27	0	0.0	T	1.6	5
Lucky Strike	5050	4/21	21	7.2	7.4	- -	0
Marks Creek	4540	4/27	0	0.0	0.0	- -	4
Ochoco Meadows	5200	*c*					
Olive Lake	6000	4/28	38	13.6	14.1	- -	3
Schoolmarm	4775	*f*					
Snow Mountain	6300	*c*					
Starr Ridge	5150	4/27	0	0.0	0.0	0.9	5
Tipton	5100	4/24	0	0.0	0.0	1.8	5
Williams Ranch	4500	*c*					

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
UPPER DESCHUTES, CROOKED WATERSHEDS
OREGON

as of
MAY 1, 1961

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE, OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1961 irrigation water supply outlook for central Oregon remains "fair" with the forecasts for Crooked River and inflow to Ochoco dropping slightly as a result of below normal precipitation during April.

SNOW COVER

Water content of the Deschutes watershed is slightly less than last year and only 79 percent of the 1943-57 average.

The snowpack has melted at about the normal rate during April and recent measurements indicate only a 5 percent decrease during the month.

SOIL MOISTURE

The soil surface has started to show a moisture loss as a result of below normal precipitation during the month and snow cover receding to higher elevations.

RESERVOIR STORAGE

Ochoco Reservoir now holds 27,600 acre feet compared to 20,200 one year ago. The new Prineville reservoir now contains about 95,000 to 100,000 acre feet and will be able to give some relief to the Ochoco Project through the Rye Grass Ditch.

Storage in Crane Prairie, Crescent Lake and Wickiup is 75, 99 and 138 percent of normal respectively.

STREAMFLOW

Streamflow forecasts dropped slightly on the Crooked River and inflow to Ochoco. The Crooked is forecast at 65,000 acre feet (50 percent of average) and the inflow to Ochoco at 11,000 acre feet (34 percent of average) for the April-September period. Forecasts of other Deschutes tributaries and the main stream remain the same as last month and range from 68 percent for the Deschutes below Snow to 91 percent for the Squaw near Sisters.

Smaller creeks on the east side of the Deschutes are expected to drop off rapidly in the next few weeks and have less water available than last year.

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WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Arnold Irrigation Dist.	Average	Average
Bear Creek	Fair	Fair
Beaver Creek	Fair	Fair
Camp Creek	Fair	Fair
Central Ore. Irrig. Dist.	Average	Average
Crooked River	Fair	Fair
Deschutes River	Average	Fair
Hay-Trout Creeks	Fair	Fair
Lone Pine Irrig. Dist.	Average	Average
Mill Creek	Fair	Fair
North Unit Irrig. Dist.	Average	Fair
Ochoco Creek	Fair	Fair
Sisters Irrigation Dist.	Average	Fair
Snow Creek Irrig. Dist.	Average	Fair
Squaw Creek Irrig. Dist.	Average	Fair
Swalley Ditch	Average	Average
Tumalo Project	Average	Average
Walker Basin Irrig. Dist.	Average	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Crane Prairie	55.3	35.6	32.0	47.6
Crescent Lake	117.2	46.7	50.8	47.1
Ochoco	47.5	27.6	20.2	39.7
Wickiup	182.0	193.8	183.1	140.4

Note: The U. S. Bureau of Reclamation indicates that dead storage in the amount of 5360 acre feet may be included in the current storage figure for Crescent Lake.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

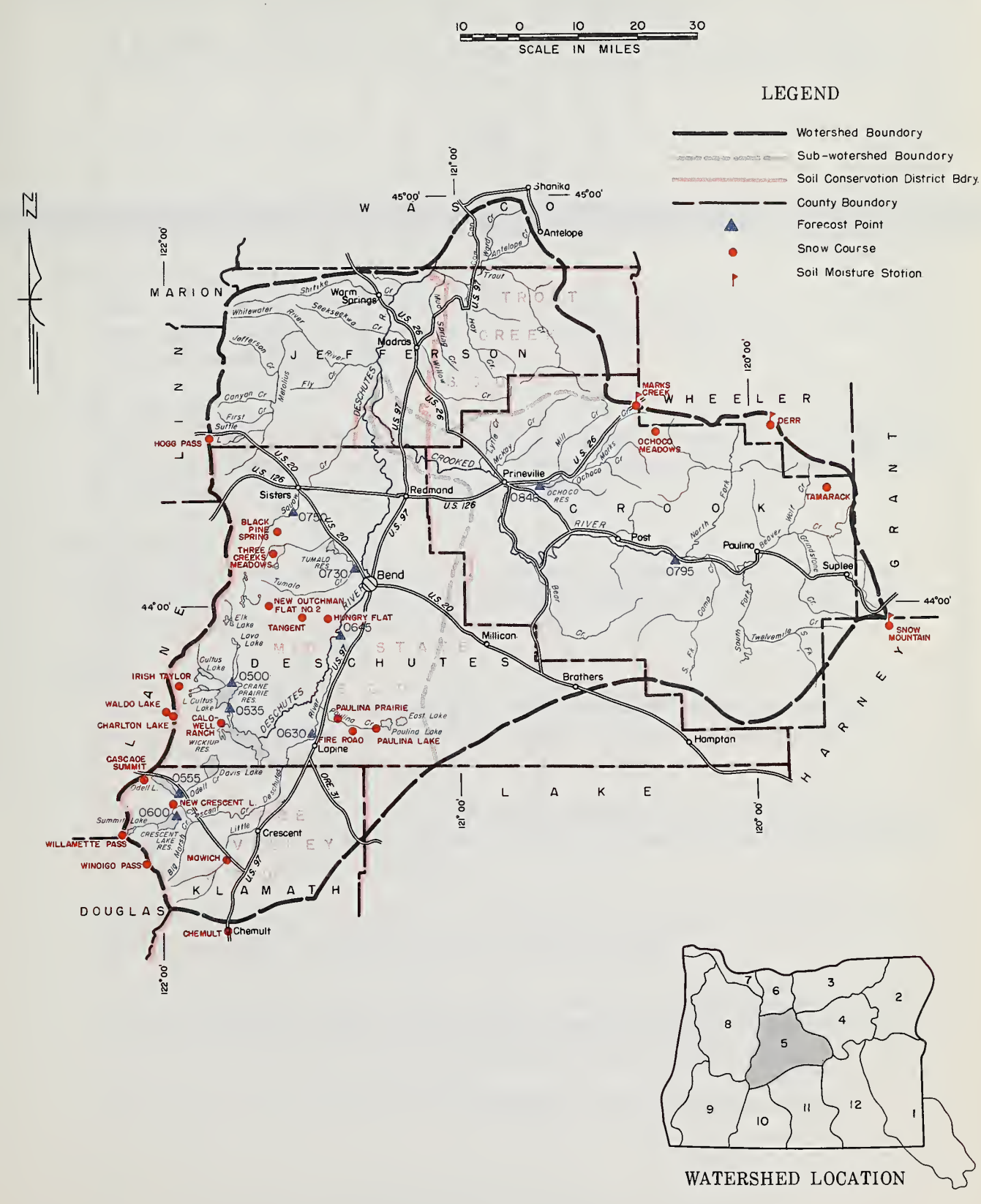
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
0535	Crane Prairie Reservoir total Inflow	100	April-Sept.	143	70
0600	Crescent at Crescent Lake [d]	22	April-Sept.	31	71
0795	Crooked near Post	65	April-Sept.	129	50
0645	Deschutes at Benham Falls [d]	470	April-Sept.	602	78
		319	April-July	404	79
0500	Deschutes below Snow Creek	50	April-Sept.	74	68
0630	Deschutes, Little near Lapine [d]	84	April-Sept.	113	74
		75	April-July	100	75
0848	Ochoco Reservoir net inflow	11	April-Sept.	32	34
0555	Odell near Crescent	26	April-Sept.	34	76
0750	Squaw near Sisters	50	April-Sept.	55	91
0730	Tumalo near Bend [d]	47	April-Sept.	55	85

AVAILABLE SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Derr	5670	24	6.0	[c]			
Marks Creek	4540	36	8.3	4-27-61	7.7	8.2	7.5
Snow Mountain	6300	48	10.4	[c]			

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Partly estimated.

UPPER DESCHUTES, CROOKED WATERSHEDS



SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD		
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1943-57 AVERAGE	YEARS IN AVERAGE[b]
Black Pine Spring	4600	*f*					
Caldwell Ranch	4400	*c*					
Cascade Summit	4880	4/27	44	18.5	28.2	31.8	12
Charlton Lake	5750	*c*					
Chemult	4760	*c*					
Derr	5670	*c*					
Fire Road	5050	4/26	0	0.0	0.0	- -	3
Hogg Pass	4755	4/26	80	36.5	37.6	53.5	11
Hungry Flat	4400	4/27	0	0.0	0.0	0.0	6
Irish-Taylor	5500	*c*					
Marks Creek	4540	4/27	0	0.0	0.0	- -	4
Mowich	4700	4/25	0	0.0	0.0	- -	1
New Crescent Lake	4800	4/25	4	1.9	7.7	6.3	6
New Dutchman Flat No. 2	6400	4/27	112	55.3	49.6	62.8	12
Ochoco Meadows	5200	*c*					
Paulina Lake	6330	4/26	46	18.5	14.7	- -	3
Paulina Prairie	4285	4/26	0	0.0	0.0	- -	2
Snow Mountain	6300	*c*					
Tamarack	4800	*c*					
Tangent	5400	4/27	39	16.4	12.6	13.3	6
Three Creeks Butte	5200	4/28	0	0.0	0.0	- -	4
Three Creeks Meadows	5600	4/28	30	12.9	11.4	16.8	9
Waldo Lake	5500	*c*					
Willamette Pass	5600	4/24	91	39.1	44.4	49.5	9
Windigo Pass	5800	4/25	100	44.5	39.7	52.5	9

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS
OREGON

as of
MAY 1, 1961

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE . OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

Above normal April precipitation in Hood and Wasco Counties has improved the water supply outlook for the coming irrigation season to "near average" in the early season and "fair" in the late season.

SNOW COVER

Snow cover averages slightly less than last year at this time and is only 78 percent of average. Cool, wet weather in April allowed the snowpack at higher elevations to melt at about the average rate during the month.

SOIL MOISTURE

The soil profile has continued to gain moisture during April. Above normal precipitation fell during the month with The Dalles reporting 0.69 inches and Dufur had a total of 1.12 inches during April.

STREAMFLOW

The flow of Hood River near Hood River* flowed about 88 percent of the April average for the 1943-57 period. It has flowed 112 percent of average for the October through April period.

Forecasts for the Hood River are 321,000 acre feet (88 percent) near Hood River for the April-September period, with the West Fork near Dee contributing 150,000 acre feet (86 percent) for the same period.

The White River near Tygh Valley is expected to flow 158,000 acre feet, April through September, or 89 percent of the 1943-57 average.

Flow of smaller streams such as Rock, Gate, Threemile, Badger and Tygh Creeks as well as Dog River, Mosier, Mill and Mile Creeks will taper off earlier than last year and total flow will be less unless above normal rainfall persists.

*Preliminary data furnished by U.S. Geological Survey, Portland, Oregon

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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Aldridge Ditch	Fair	Fair
Badger Creek	Average	Fair
Dee Irrigation District	Average	Fair
East Fork Irrig. Dist.	Average	Fair
Farmers Irrig. Dist.	Average	Fair
Glacier Irrig. Dist.	Average	Fair
Hood River Irrig. Dist.	Fair	Poor
Juniper Flat	Average	Average
Middle Fork Irrig. Dist.	Average	Fair
Mile Creeks	Fair	Fair
Mill Creek	Fair	Fair
Mount Hood Irrig. Dist.	Average	Fair
Rock-Gate-Threemile Crs.	Average	Fair
Tygh Creek	Fair	Fair
White River	Average	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Clear Lake	- -	7.4	- -	- -

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
1210	Hood near Hood River[d]	321	April-Sept.	365	88
		270	April-July	311	87
1185	Hood, West Fork near Dee	150	April-Sept.	174	86
		130	April-July	151	86
1015	White below Tygh Valley	158	April-Sept.	178	89
		140	April-July	161	87

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD		
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1943-57 AVERAGE	YEARS IN AVERAGE[b]
Brooks Meadows	4300	c					
Clear Lake	3500	4/28	0	0.0	2.4	11.8	7
Clear Lake Experimental	3500	4/28	10	4.5	8.0	- -	0
Cooper Spur	3490	c					
Greenpoint Reservoir	3400	c					
Knebal Springs	3850	c					
Parkdale	1770	c					
Phlox Point	5600	4/27	142	66.4	56.7	71.4	14
Red Hill	4400	c					
Still Creek	3700	4/27	33	14.8	19.6	21.2	14
Tilly Jane	6000	c					
Ulrich Ranch Junction	3350	c					
Upper Valley	2530	c					

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Partly estimated.

HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course

WATERSHED LOCATION

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
LOWER COLUMBIA WATERSHEDS
OREGON

as of
MAY 1, 1961

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE, OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

The water supply outlook for spring and summer flow of the Columbia River near The Dalles again has increased slightly during the month of April. The river is now forecast to flow 97,700,000 acre feet during the April-September period, which is 94 percent of the 15 year normal (1943-57).

SNOW COVER

Snow cover in the Canadian portion of the Columbia Basin did not change significantly during April. Snow melt was about average but precipitation was well above normal. In the southern portion of the basin, in western Wyoming, southern Idaho and in eastern Oregon, snow melted faster than normal but did not produce good runoff because of the dry soils. The slight increase in forecasts at The Dalles is a result of precipitation being above normal in the northern portion of the basin.

SOIL MOISTURE

Cool temperatures during the latter part of April delayed snow melt but continued to dry out soils that were exposed in the Canadian portion of Columbia Basin. In the southern portion of the basin, soils dried out fast and are extremely dry at this time. During April, significant amounts of soil moisture were lost because of the low precipitation that occurred throughout the southern half of the basin.

STREAMFLOW

Flow of the Columbia River near The Dalles* has averaged 77 percent of normal during April.

Month	Percent of Normal Discharge (1943-57)
October	103 Adjusted for storage
November	107 " " "
December	82 " " "
January	78 " " "
February	152 " " "
March	141 " " "
April	77 " " "

*From preliminary data furnished by U.S. Geological Survey, Portland, Oregon

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M.W. NELSON - P.O. BOX 1247, BOISE, IDAHO

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
1057	Columbia at The Dalles	97,700 67,000	April-Sept. April-June	106,100 72,000	94 93

HISTORICAL DATA (Columbia River at The Dalles)

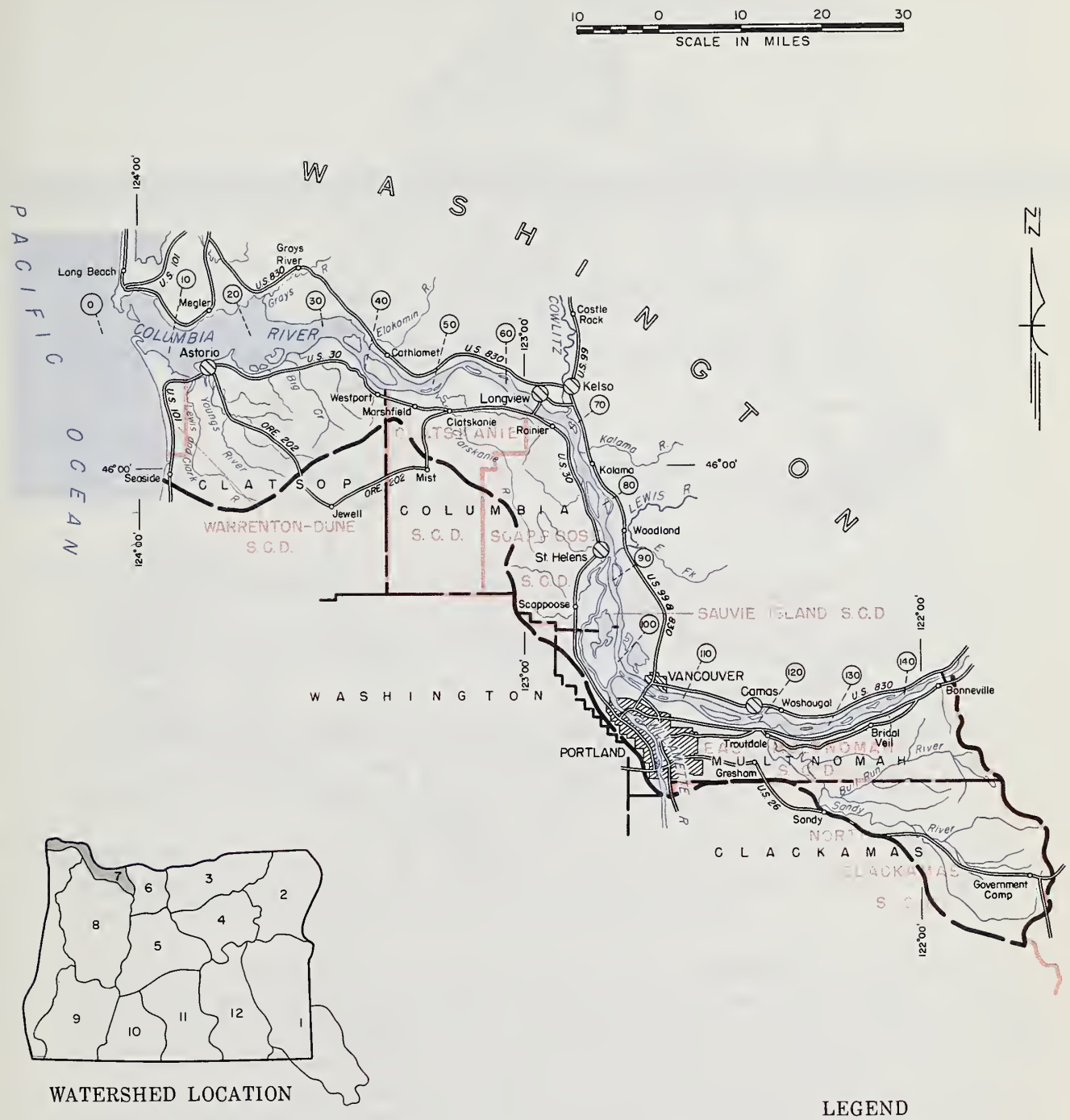
YEAR	STREAMFLOW[c] (1,000 A.F.) APR.— SEPT.	APR.— JUNE	MAY—JUNE	PEAK[e] (1,000 c.f.s)	DATE
1943	115,000	75,300	52,400	541	June 21
1944	61,900	39,200	32,100	326	June 19
1945	81,600	54,600	47,300	505	June 8
1946	108,100	75,400	59,600	581	May 30
1947	100,300	70,000	56,800	536	May 11
1948	130,500	94,600	81,900	999	May 31
1949	95,700	71,400	56,000	622	May 18
1950	120,400	74,700	61,200	744	June 25
1951	113,000	75,600	59,100	597	May 26
1952	107,700	77,500	57,300	557	May 28
1953	100,600	64,900	55,800	609	June 17
1954	119,500	70,500	59,300	561	May 23
1955	99,500	58,300	50,300	545	June 26
1956	131,400	96,900	75,800	815	June 3
1957	105,700	80,500	67,200	700	May 22
1943-57 Avg.	106,100	72,000	58,100	616	
1958	97,700	72,000	58,600	593	May 31
1959	112,500	71,900	58,900	555	June 23

LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)[f]

VANCOUVER[g] GAGE (Weather Bu.)	FLOW AT THE DALLES (1,000 c.f.s)	DRAINAGE DISTRICT PUMPHOUSE SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	WOODSON
		RIVER MILES 118.9	96.0	91.0	77.0	62.0	52.0	47.0
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	940	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	890	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	840	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	790	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	750	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	700	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	660	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	630	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	590	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	560	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20	530	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	510	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	480	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	450	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	430	22.4	16.5	15.5	13.0	10.5	9.3	8.7

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Observed flow corrected for storage in F.D.R., Kootenai, Pend Oreille, Flathead, Hungry Horse, Lake Chelan, Coeur d'Alene and Grand Coulee Equalizer. (d) Not scheduled. (e) Observed peak. (f) Based on Corps of Engineers automatic water stage recorder data. (g) Vancouver Weather Bureau gage zero is 1.82' above M.S.L.. All other readings are in feet above M.S.L.

LOWER COLUMBIA WATERSHEDS



WATERSHED LOCATION

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- (50) River Miles



"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
WILLAMETTE WATERSHEDS
OREGON

as of
MAY 1, 1961

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE, OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1961 water supply outlook for Willamette Valley streams remains "fair". Streamflow forecasts have raised on the northern end of the basin and lowered slightly on the southern end, reflecting the break in the precipitation pattern about midway up the valley.

SNOW COVER

Snow cover now averages 76 percent of last year and only 63 percent of normal for 20 courses measured about May 1st.

SOIL MOISTURE

Most Willamette Valley soils have been well primed this year by above normal precipitation falling on an enfrozen soil surface. Valley precipitation has averaged about 15 percent better than normal since October 1st.

RESERVOIR STORAGE

Reservoir storage in the five multi-purpose reservoirs operated by the Corps of Army Engineers is about 125 percent of the 1943-57 average and nearly the same as last year at this time.

STREAMFLOW

April flow of the Middle Fork of the Willamette River* was 75 percent of average, lowering the average flow since October 1st to 92 percent.

Forecasts of streamflow for the irrigation season (April-September) have been adjusted by the April precipitation pattern which changed about midway up the valley. Forecasts on streams in the northern end of the valley raised 2 to 14 percent and now range from 88 percent of the 1943-57 average on the Clackamas at Estacada to 84 percent on the McKenzie at Vida. Streams on the southern half of the basin dropped 4 to 7 percent and range from 76 percent on the North Santiam to 80 percent on the Middle Fork of the Willamette.

*Preliminary data furnished by U.S. Geological Survey, Portland, Oregon

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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Calapooya	Fair	Fair
Clackamas	Fair	Fair
McKenzie	Average	Fair
Molalla	Fair	Fair
Santiam, North	Average	Fair
Santiam, South	Average	Fair
Willamette, Coast Fork	Average	Fair
Willamette, Middle Fork	Average	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Cottage Grove	30.8*	23.1	23.3	27.0
Detroit	299.9*	271.3	274.3	189.5
Dorena	70.5*	55.5	54.2	52.4
Fern Ridge	94.2*	88.4	93.0	82.6
Lookout Point	337.2*	294.1	295.9	- -

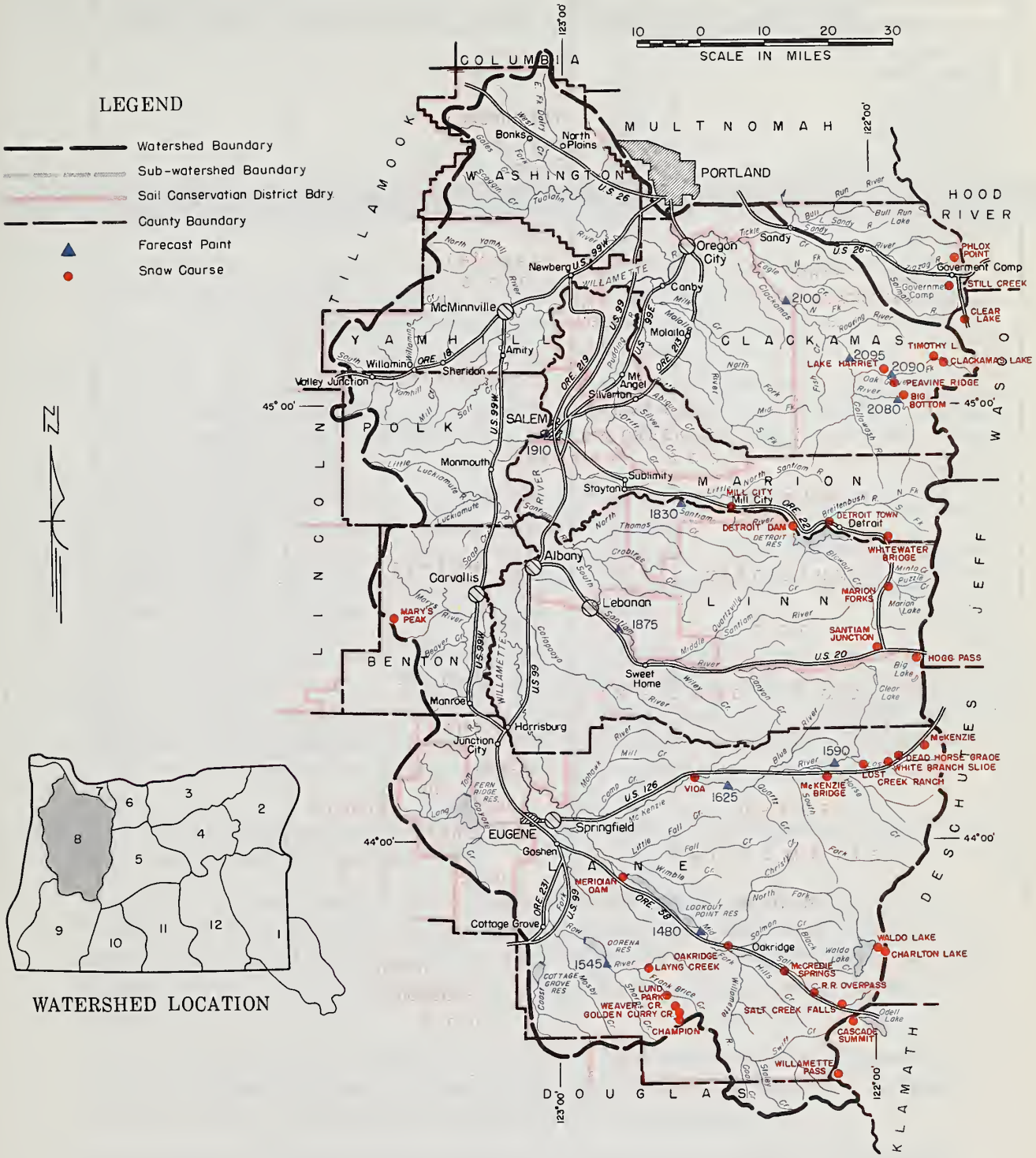
*Multiple purpose reservoir--space reserved primarily for flood runoff.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
2080	Clackamas at Big Bottom	160	April-Sept.	184	87
		129	April-July	150	86
2100	Clackamas at Estacada	774	April-Sept.	879	88
		671	April-July	763	88
2095	Clackamas above Three Lynx	573	April-Sept.	674	85
		485	April-July	578	84
1590	McKenzie at McKenzie Bridge	545	April-Sept.	640	85
		413	April-July	488	85
1625	McKenzie near Vida	1142	April-Sept.	1362	84
		932	April-July	1120	83
2090	Oak Grove Fork above Power Intake	175	April-Sept.	198	88
		136	April-July	156	87
1545	Row near Dorena	93	April-Sept.	114	82
		88	April-July	109	81
1830	Santiam, North at Mehama[d]	741	April-Sept.	968	76
		651	April-July	866	75
1875	Santiam, South at Waterloo	500	April-Sept.	652	77
		465	April-July	616	75
1480	Willamette, Mid. Fk. blw. N. Fk. nr. Oakridge	727	April-Sept.	909	80
		643	April-July	804	80
1910	Willamette at Salem[d]	4700	April-Sept.	5461	86
		4150	April-July	4942	84

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed.

WILLAMETTE WATERSHEDS



SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD		
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1943-57 AVERAGE	YEARS IN AVERAGE[b]
Big Bottom	2118	4/28	0	0.0	0.0	2.2	6
Cascade Summit	4880	4/27	44	18.5	28.2	31.8	12
Champion	4500	c					
Charlton Lake	5750	c					
Clackamas Lake	3400	c					
Clear Lake	3500	4/28	0	0.0	2.4	11.8	7
Clear Lake Experimental	3500	4/28	10	4.5	8.0	- -	0
Dead Horse Grade	3800	5/1	T	T	13.4	- -	3
Detroit Town	1610	4/26	0	0.0	0.0	0.0	7
Detroit Dam	1580	4/26	0	0.0	0.0	0.0	7
Golden Curry Creek	3136	c					
Hogg Pass	4755	4/26	80	36.5	37.6	53.5	11
Lake Harriet	2045	4/29	0	0.0	0.0	0.0	6
Layng Creek	1200	c					
Lost Creek Ranch	1956	5/1	0	0.0	0.0	- -	3
Lund Park	1740	c					
Marion Forks	2730	4/26	0	0.0	3.5	5.1	9
Marys Peak	3620	4/30	8	3.7	- -	- -	2
McCredie Springs	2120	4/27	0	0.0	0.0	0.0	8
McKenzie	4800	5/1	73	35.8	43.4	- -	3
McKenzie Bridge	1372	5/1	0	0.0	0.0	- -	3
Meridian Dam	750	4/27	0	0.0	0.0	0.0	7
Mill City	826	4/26	0	0.0	0.0	0.0	8
Oakridge	1310	4/27	0	0.0	0.0	0.0	8
Peavine Ridge	3500	4/29	19	8.5	16.0	21.0	9
Phlox Point	5600	4/27	142	66.4	56.7	71.4	14
Railroad Overpass	2750	4/27	0	0.0	0.0	0.1	7
Salt Creek Falls	4000	4/27	0	0.0	14.6	16.2	8
Santiam Junction	3990	4/26	16	7.0	13.7	18.2	10
Still Creek	3700	4/27	33	14.8	19.6	21.2	14
Timothy Lake	3295	4/29	14	6.0	11.2	- -	2
Vida	800	5/1	0	0.0	0.0	- -	3
Waldo Lake	5500	c					
Weaver Creek	2440	c					
White Branch Slide	2800	5/1	0	0.0	0.0	- -	3
Whitewater Bridge	2175	4/26	0	0.0	0.0	T	7
Willamette Pass	5600	4/24	91	39.1	44.4	49.5	9

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
ROGUE, UMPQUA WATERSHEDS
OREGON

as of
MAY 1, 1961

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE . OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK - The 1961 water supply outlook for southern Oregon is now "fair". Most streamflow forecasts dropped 2 to 13 percent as a result of poor April runoff. Storage in Fish Lake and Fourmile Lake received extremely poor April inflow. Irrigation districts served by these sources will likely have short supplies.

SNOW COVER - The average of all snow measurements taken about May 1 indicates about the same snow cover as last year at this time although only 87 percent of the 1943-57 average. Most of this snow lies above 5000 feet elevation with little if any below this elevation.

SOIL MOISTURE - Soil moisture is very good as a result of good spring precipitation. April precipitation was slightly above normal at Medford.

RESERVOIR STORAGE - Talent Irrigation District now has a total of 61,500 acre feet of stored water in Hyatt Prairie, Emigrant Gap and Howard Prairie Reservoirs compared with 31,500 acre feet at this time last year.

The Medford and Rogue River Valley Irrigation Districts are not so fortunate and have only 4,456 acre feet in Fish Lake and although current data was not available for Fourmile Lake, it had only 4,100 acre feet on April 1st. Inflow for the remainder of the year is expected to be very low for these reservoirs. These districts will have "short" water supplies unless they can obtain water from the Talent system.

STREAMFLOW - Streamflow during April was below normal. The Rogue at Raygold* had 75 percent normal flow for the month.

Streamflow forecasts dropped 2 to 13 percent except for an adjustment upward on the inflow to Hyatt Prairie, which raised 12 percent. The forecast of the Rogue at Raygold is now 74 percent of average, with the minimum flow expected to drop near or below 900 c.f.s. by September 20 unless above average summer rainfall occurs.

North and South Forks of Little Butte Creek are forecast to flow about 62 and 57 percent of average for the irrigation season. Inflow to Fourmile and Hyatt Lakes is expected to be 5,000 acre feet and 3,700 acre feet respectively.

The Applegate is forecast at 85 percent of average and the Illinois at 75 percent of average.

*Preliminary data furnished by U.S. Geological Survey, Portland, Oregon

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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Althouse Creek	Fair	Fair
Applegate River, Big	Average	Fair
Applegate River, Little	Average	Fair
Ashland Creek	Fair	Fair
Butte Creek, Little	Fair	Fair
Butte Creek, Big	Fair	Fair
Cow Creek	Fair	Fair
Deer Creek	Fair	Fair
Elk Creek	Average	Fair
Emigrant Cr. (above Res.)	Fair	Fair
Evans Creek	Fair	Fair
Gold Hill Irrigation Dist.	Average	Average
Grants Pass Irrig. Dist.	Average	Fair
Grave Creek	Fair	Fair
Illinois River, East Fork	Fair	Fair
Illinois River, West Fork	Fair	Fair
Jump-off-Joe Creek	Fair	Fair
Neil Creek	Fair	Fair
Red Blanket Creek	Average	Fair
Rogue River	Average	Fair
Sucker Creek	Fair	Fair
Table Rock Irrig. Dist.	Average	Average
Thompson Creek	Fair	Fair
Wagner Creek	Fair	Fair
Williams Creek	Fair	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

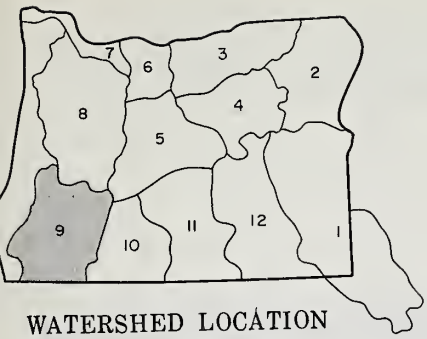
RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Emigrant Gap	39.0	30.3	0.0[h]	7.7
Fish Lake	7.8	4.5	5.2	6.1
Fourmile Lake	16.1	[f]	6.5	10.8
Howard Prairie	60.0	25.2	20.8	- -
Hyatt Prairie	16.1	6.0	10.7	11.2

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
3620	Applegate near Copper	112	April-Sept.	131	85
3145	Clearwater above Trap Creek[d]	60	April-Sept.	73	80
5045	Fourmile Lake net Inflow[d]	5.0	April-Sept.	7.4	68
5140	Hyatt Reservoir net Inflow[d]	3.7	April-Sept.	6.2	60
3770	Illinois River at Kerby[d]	147	April-Sept.	196	75
3425	Little Butte, N. Fk. at Fish Lk. nr. Lk. Cr.[d]	10.5	April-Sept.	16.9	62
3415	Little Butte, S. Fk. near Lake Creek	24	April-July	42	57
	Note: Minimum flow will drop to 100 c.f.s. by May 14 assuming normal precipitation and temperatures.				
3280	Rogue above Prospect	270	April-Sept.	351	77
		226	April-July	293	77
3320	Rogue, South Fork near Prospect[d]	65	April-Sept.	83	78
		55	April-July	71	78
3350	Rogue below South Fork	577	April-Sept.	749	77
		462	April-July	608	76
3590	Rogue at Raygold near Central Point	745	April-Sept.	1004	74
	Note: Minimum flow will drop to 2000 c.f.s. by June 1 and will drop below 900 c.f.s. by September 20th unless above normal summer precipitation occurs.	620	April-July	842	74
3615	Rogue at Grants Pass	780	April-Sept.	974	80
3135	Umpqua, North below Lemolo Res. nr. Toketee Falls[d]	155	April-Sept.	186	80

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not Surveyed. (h) Construction. (i) 7 of 18 sampling points. (j) Partly estimated.

ROGUE, UMPQUA WATERSHEDS



WATERSHED LOCATION

10 0 10 20 30
SCALE IN MILES

N

Drain
Elkton
CHAMPION
WINDIGO PASS
3135
NORTH UMPQUA
TRAP CREEK
3145
DIAMOND LAKE
Raseburg
Diamond Lake
RED BUTTE NO. 2
RED BUTTE NO. 1
QUARTZ MTN. NO. 1
QUARTZ MTN. NO. 2
QUARTZ MTN. NO. 3
DIAMOND CRATER SUMMIT
Dillard
Myrtle Creek
Canyonville
Crater Lake
SILVER BURN
PARK HDQTRS
ANNIE SPRING
WHALEBACK
EDEN VALLEY SUMMIT
Azolea
Prospect
3280
3350
3320
SEVEN LAKES NO. 2
SEVEN LAKES NO. 1
Wolf Creek
Grants Pass
3615
Eagle Point
3590
WILLOW CR. RES.
FOURMILE LAKE RES.
5045
FOURMILE LAKE
FISH LAKE
BILLIE CREEK DIVIDE
FISH LAKE RES.
3425
3415
Gold Hill
Medford
HOWARD PRAIRIE
HOWARD PRAIRIE RES.
Kerby
3700
Ashland
5140
HYATT PRAIRIE RESERVOIR
EMIGRANT GAP RES.
WAGNER BUTTE
OREGON CAVES
GRAYBACK PEAK
3620
LITTLE RED MTN.
SISKIYOU SUMMIT
Siskiyou
HOBART LAKE
PAGE MTN.
BIG REO MTN.
ALTHOUSE
Copper
HAZEL VIEW
SCRAGG MTN.

43°00'
42°00'
124°00'
123°00'

C A L I F O R N I A

LEGEND

- Watershed Boundory
- Sub-watershed Boundory
- Soil Canservotian District Bdry
- County Boundary
- Forecast Point
- Snow Course

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD		
					WATER CONTENT (Inches)		
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE	YEARS IN AVERAGE [b]
Althouse	4530	[c]					
Annie Spring	6018	4/28	93	44.0	43.5	45.4	15
Beaver Dam Creek	5100	[c]					
Big Red Mountain	6500	[c]					
Billie Creek Divide	5300	4/29	28	11.1	13.6	20.9	7
Champion	4500	[c]					
Cold Springs Camp	6100	[c]					
Deadwood Junction	4600	[c]					
Diamond-Crater Summit	5800	4/26	75	33.0	32.3	- -	0
Diamond Lake	5315	4/26	37	14.9	19.3	18.6	12
Eden Valley Summit	2390	[c]					
Fish Lake	4865	[f]					
Fourmile Lake	6000	[c]					
Grayback Peak	6000	[c]					
Hazel View	2500	[c]					
Hobart Lake	5010	[c]					
Howard Prairie	4500	[f]					
Hyatt Prairie Reservoir	4900	[c]					
Little Red Mountain	6500	[c]					
North Umpqua	4215	4/27	1	0.4	4.6	- -	2
Page Mountain	4045	[c]					
Park Headquarters	6450	4/28	119	59.9	52.6	62.2	14
Red Butte #1	4560	4/25	29	11.8	12.4	- -	0
Red Butte #2	4000	4/25	1.5	T	0.0	- -	0
Red Butte #3	3500	4/25	0	0.0	- -	- -	0
Red Butte #4	3000	4/25	0	0.0	- -	- -	0
Red Butte #5	2500	4/25	0	0.0	- -	- -	0
Red Butte #6	2000	4/25	0	0.0	- -	- -	0
Rye Spring Spur	5000	[c]					
Seven Lakes #1	6800	[c]					
Seven Lakes #2	6200	[c]					
Silver Burn	3720	4/27	0	0.0	2.8	- -	4
Siskiyou Summit	4630	[c]					
South Fork Canal	3500	4/27	0	0.0	0.0	- -	3
Trap Creek	3800	[f]					
Wagner Butte	6900	[c]					
Whaleback	5140	[c]					
Windigo Pass	5800	4/25	100	44.5	39.7	52.5	9

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
KLAMATH WATERSHEDS
OREGON

as of
MAY 1, 1961

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE . OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

Much below normal precipitation coupled with drying winds over most of Klamath Basin have changed the water supply outlook from "fair" to "poor" for the remainder of the irrigation season. Streamflow was very low during April and storage in Gerber and Clear Lake is extremely low for this time of year. Forecasts dropped 5 to 32 percent on Klamath Basin streams.

SNOW COVER

Snow cover in Klamath Basin is now 104 percent of last year but only 89 percent of the 1943-57 average for May 1st. All of the snow measured was above 5000 feet elevation and the area under this high snow represents a small part of the total water producing area.

SOIL MOISTURE

Drying winds and below normal precipitation have robbed the soil of much of the moisture it contained at the end of March. The top foot has been dried out over most of the area.

RESERVOIR STORAGE

Storage in Gerber and Clear Lake is extremely low for this early in the season. Gerber has 22,200 acre feet or 35 percent of average, and Clear Lake has 118,800 acre feet for 43 percent of average. Upper Klamath Lake has 519,800 acre feet which is 104 percent of the 1943-57 average for May 1st.

STREAMFLOW

Inflow into Upper Klamath Lake during April was 108,200 acre feet which was only 54 percent of average for the month. October 1 through April the inflow has been 80 percent of average.

Streamflow forecasts for the irrigation season have dropped 5 to 32 percent. Clear Lake inflow is now expected to be only 10,000 acre feet (20 percent of average), Gerber inflow is forecast to be 7,000 acre feet (28 percent). Lands served from these reservoirs are likely to have a "short" irrigation season and next year may be even more critical since carryover water in the reservoirs will be extremely limited. The inflow to Upper Klamath Lake is expected to be about 410,000 acre feet or 65 percent of average. The Sprague and Williamson are forecast to flow 51 and 63 percent of average respectively.

Report prepared by
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209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Ft. Klamath Valley	Fair	Fair
Lost River (Clear Lake)	Fair	Poor
Lost River (Gerber)	Fair	Poor
Lost River (Willow Res.)	Fair	Poor
Sprague River	Fair	Fair
Upper Klamath Lake	Fair	Fair
Williamson River	Fair	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Clear Lake	440.2	118.8	187.6	279.0
Gerber	94.0	22.2	28.9	65.1
Upper Klamath Lake	584.0	519.8	504.8	497.7

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

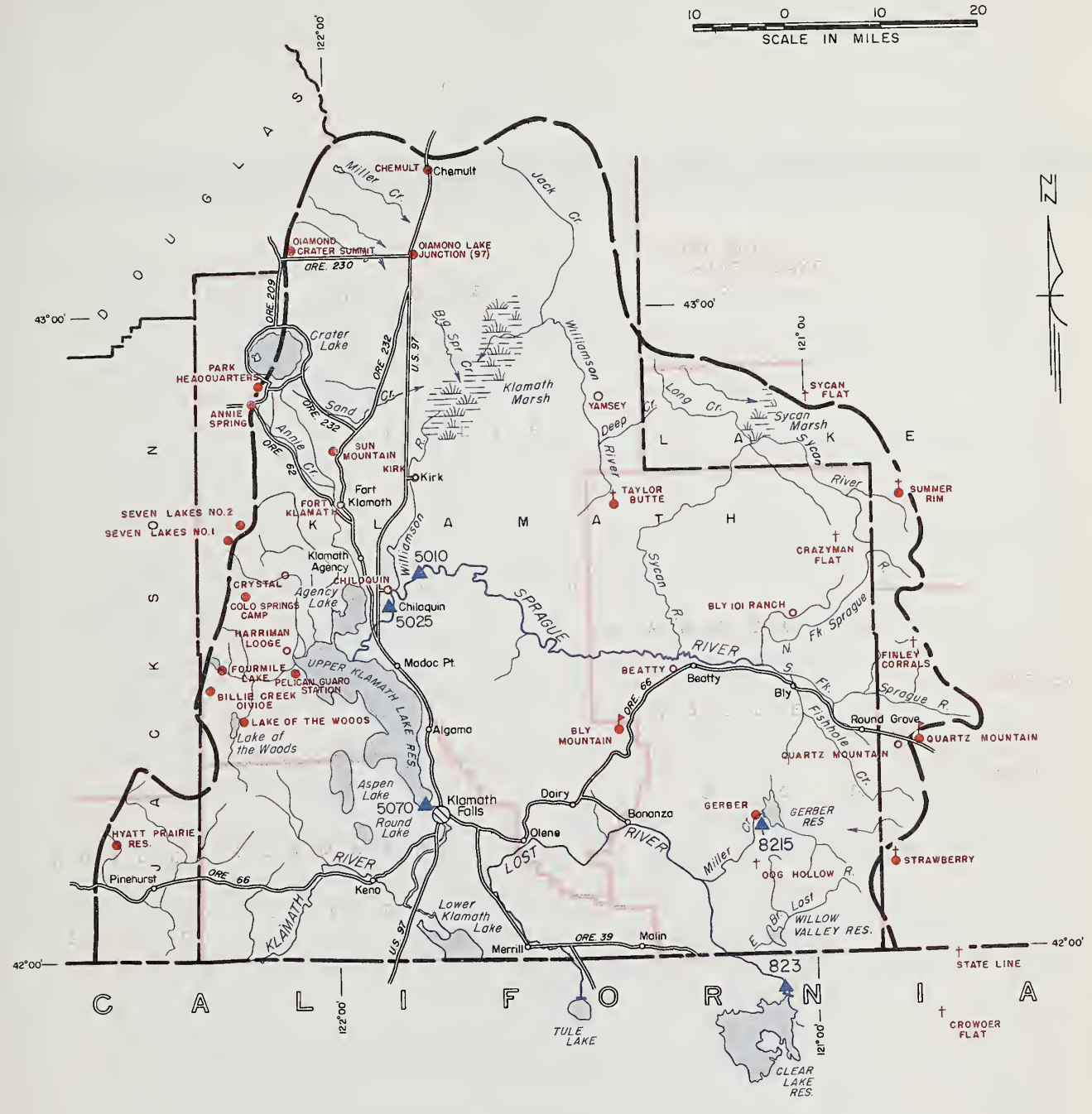
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
923	Clear Lake Reservoir inflow [g]	10	April-Sept.	50	20
8215	Gerber Reservoir inflow [g]	7.0	April-Sept.	25	28
5010	Sprague near Chiloquin	150	April-Sept.	296	51
5070	Upper Klamath Lake net inflow [g]	410	April-Sept.	632	65
		337	April-July	518	65
5025	Williamson below Sprague River [d]	305	April-Sept.	486	63
		260	April-July	413	63

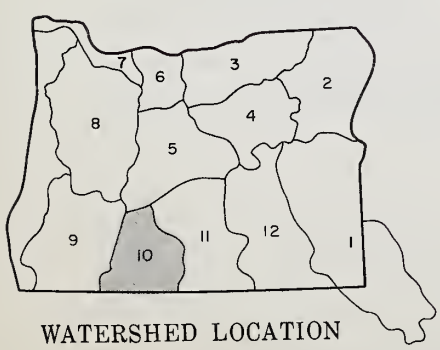
SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD		
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1943-57 AVERAGE	YEARS IN AVERAGE[b]
Annie Spring	6018	4/28	93	44.0	43.5	45.4	15
Beatty (COPCO)	4300	c					
Billie Creek Divide	5300	4/29	28	11.1	13.6	20.9	7
Bly Mountain	5090	5/1	0	0.0	0.0	- -	0
Bly 101 Ranch (COPCO)	4800	c					
Chemult	4760	c					
Chiloquin (COPCO)	4187	c					
Cold Springs Camp	6100	c					
Crazyman Falt [e]	6100	c					
Crowder Flat [e]	5200	c					
Crystal (COPCO)	4200	c					
Diamond-Crater Summit	5800	4/26	75	33.0	32.3	- -	0
Diamond Lake Junction (97)	4600	4/26	0	0.0	0.0	- -	0
Dog Hollow [e]	4900	c					
Finley Corrals [e]	6000	c					
Fort Klamath (COPCO)	4150	c					
Gerber	4850	c					
Harriman Lodge (COPCO) (Renamed Tomahawk Ski Bowl)	4200	c					
Hyatt Prairie Reservoir	4900	c					
Kirk (COPCO)	4533	c					
Lake of the Woods	4960	f					
Park Headquarters	6450	4/28	119	59.9	52.6	62.2	14
Pelican Guard Station	4150	c					
Quartz Mountain	5320	5/1	0	0.0	0.0	0.0	6
Quartz Mountain (COPCO)	5504	5/1	0	0.0	0.0	- -	2
Seven Lakes #1	6800	c					
Seven Lakes #2	6200	c					
State Line [e]	5750	c					
Strawberry	5600	4/28	0	0.0	0.0	- -	2
Summer Rim	7200	c					
Sun Mountain	5350	c					
Sycan Flat [e]	5500	c					
Taylor Butte [e]	5100	c					
Yamsey (COPCO)	4600	c					

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) From COPCO or USBR records of inflow. (h) Flashboards increase capacity to 513.0 (i) Water content partly estimated.

KLAMATH WATERSHEDS





WATERSHED LOCATION

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- Forecast Point
- Snow Course
- Aerial Snow Depth Gage
- COPCO Snow Station
- Soil Moisture Station

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
LAKE COUNTY, GOOSE LAKE WATERSHEDS
OREGON

as of
MAY 1, 1961

U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

Below normal precipitation and drying winds during April have caused the "fair" to "poor" water supply outlook for Lake County water users to be lowered still more towards "poor". Streamflow forecasts were reduced 3 to 15 percent after the month of April produced well below normal flow on most streams.

SNOW COVER

Snow remains on only the highest elevations and none was measured on courses regularly surveyed May 1st at elevations up to 5600 feet.

SOIL MOISTURE

The top 6 to 12 inches of soil has been dried out considerably during April by the lack of precipitation coupled with drying winds over most of the area.

RESERVOIR STORAGE

Stored water in Cottonwood and Drews Reservoirs now totals 27,900 acre feet compared with the 38,000 acre feet in storage at this time last year. This year's storage is only 46 percent of average for the 1943-57 period.

STREAMFLOW

Streamflow forecasts have dropped 3 to 15 percent as a result of well below normal precipitation during April.

Drews Reservoir can expect an inflow of about 9,000 acre feet (26 percent average) for the April-July period. About 7,100 acre feet of this flow came in April - leaving only 1,900 acre feet to come in May, June and July.

No snow remains on the watershed so all future runoff will depend on rainfall. This remaining inflow (1,900 acre feet) added to present storage (27,900 acre feet) will give Lakeview water users about 29,800 acre feet for the season.

Flows of Deep, Honey and Twentymile Creeks are expected to be 56, 49 and 45 percent of average respectively for the April-June period.

The Chewaucan River forecast has dropped to 61 percent or 50,000 acre feet for the April-June period.

Streamflow on smaller creeks such as Crooked, Moss, Beech, Bridge, Silver and Duncan is expected to drop off rapidly during the next few weeks.

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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Chewaucan River	Fair	Fair
Crooked Creek	Fair	Poor
Deep Creek	Fair	Poor
Dry Creek	Fair	Poor
East Side Goose Lake	Fair	Poor
Guano Lake	Fair	Poor
Honey Creek	Fair	Poor
Lakeview Water Users Assn.	Fair	Poor
Rock Creek (Hart Mtn.)	Fair	Poor
Silver-Buck Creeks	Fair	Poor
Summer Lake	Fair	Fair
Thomas Creek	Fair	Poor
Twentymile Creek	Fair	Poor
Warner Lakes	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Cottonwood	4.1	3.5	3.6	3.6
Drew	63.0	24.4	34.4	57.1

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

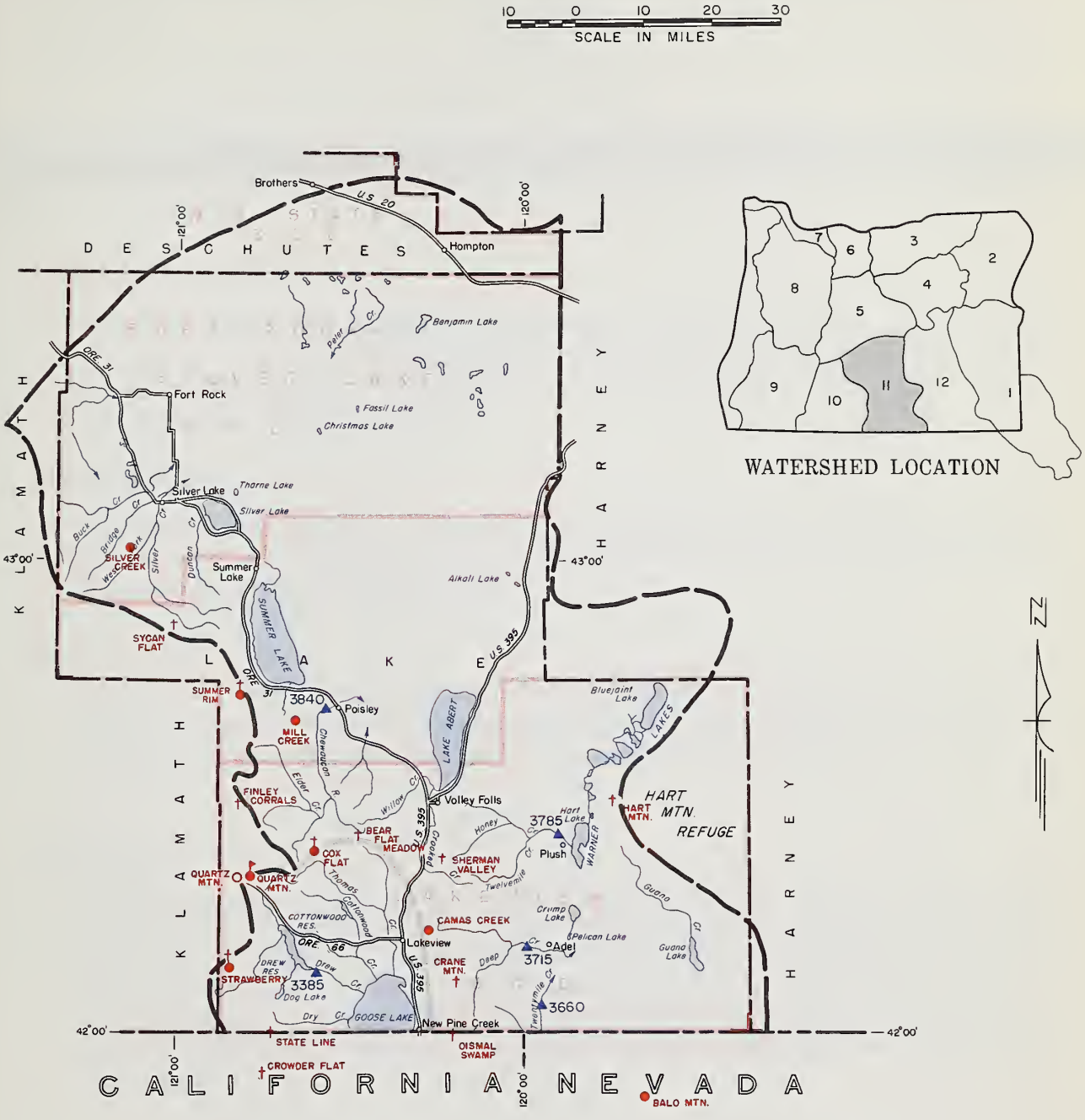
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
3840	Chewaucan near Paisley	50	April-June	82	61
3715	Deep above Adel	40	April-June	71	56
3385	Drew Reservoir net Inflow	10	April-July	34	29
3785	Honey near Plush	8.0	April-June	16.3	49
3660	Twentymile near Adel	9.0	April-June	20	45

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD		
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1943-57 AVERAGE	YEARS IN AVERAGE[b]
Bald Mountain (Nev.)	6720	c					
Bear Flat Meadow [e]	5900	c					
Camas Creek	5720	c					
Cox Flat [e]	5750	c					
Crane Mountain [e]	6020	c					
Crowder Flat [e]	5200	c					
Dismal Swamp [e] (Calif.)	7000	c					
Finley Corrals [e]	6000	c					
Hart Mountain [e]	6350	c					
Mill Creek	6200	c					
Mosquito Lake [e] (Little Bally Mtn.)	6600	c					
Quartz Mountain (COPCO)	5504	5/1	0	0.0	0.0	- -	2
Quartz Mountain	5320	5/1	0	0.0	0.0	0.0	6
Sherman Valley [e]	6600	c					
Silver Creek	4900	c					
State Line [e]	5750	c					
Strawberry	5600	4/28	0	0.0	0.0	- -	2
Summer Rim [e]	7200	c					
Sycan Flat [e]	5500	c					

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed.

LAKE COUNTY, GOOSE LAKE WATERSHEDS



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Aerial Snow Depth Gage
- COPCO Snow Station
- Soil Moisture Station

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
HARNEY BASIN WATERSHEDS
OREGON

as of
MAY 1, 1961

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE . OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1961 water supply outlook for Harney Basin is now on the "poor" side as a result of well below normal precipitation and drying winds during April. Streamflow fell off during the latter part of April and forecasts have been reduced 5 to 12 percent for the summer irrigation season.

SNOW COVER

Snow cover in Harney Basin was found only at elevations above 5500 feet on May 1 surveys. The Blue Mountain Springs course was above average but it was the only course measured which had any snow.

SOIL MOISTURE

Moisture has been rapidly drawn out of the soil profile by drying winds during April. Electronic measurements have not been taken recently but reports from the field indicate that the wind has dried much of the moisture from the top 6 to 12 inches of soil.

STREAMFLOW

Streamflow forecasts have been reduced this month as a result of below normal April precipitation. Forecasts now range from 44,000 acre feet or 65 percent of the 1943 - 57 average on the Blitzen for the April-September period to 45,000 acre feet or 42 percent on the Silvies. Trout Creek is expected to flow 5,500 acre feet or 60 percent of average for the same period. Silver Creek flow has fallen off during the last two weeks of April and it is now forecast to flow 12,000 acre feet for the April-July period.

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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Catlow Valley	Fair	Poor
Cow Creek	Fair	Poor
Donner und Blitzen River	Fair	Poor
Mill-Coffeepot Creeks	Fair	Poor
Rattlesnake Creek	Fair	Poor
Silver Creek	Fair	Poor
Silvies River	Fair	Poor
Soldier-Prather Creek	Fair	Poor
Trout Creek	Fair	Poor
Whitehorse Creek	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
3960	Donner und Blitzen near Frenchglen	44	April-Sept.	67	65
4030	Silver near Riley	12	April-July	26	46
3935	Silvies near Burns	45	April-Sept.	107	42
4065	Trout near Denio	5.5	April-Sept.	9.2	60

AVAILABLE SOIL MOISTURE

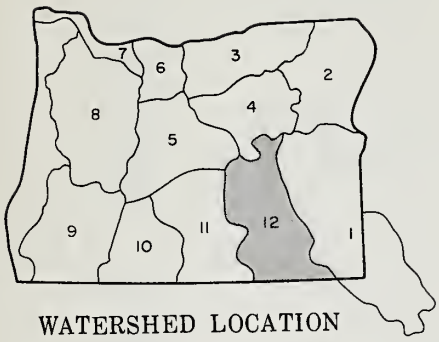
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Blue Mountain Springs	5900	42	12.0	4-27-61	6.5	8.4	9.9
Fish Creek	7600	48	9.5	c			
Folly Farm	4450	36	8.3	c			
Silvies	6900	48	10.3	c			
Snow Mountain	6300	48	10.4	c			
Starr Ridge	5150	36	6.1	4-27-61	5.2	5.8	5.8
Stinking Water	4800	48	11.7	c			
Willow-Bald	5000	24	4.3	c			

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD		
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)		YEARS IN AVERAGE[b]
					LAST YEAR	1943-57 AVERAGE	
Blue Mountain Spring	5900	4/27	23	8.4	5.7	5.8	5
Call Meadows[e]	5340	c					
Delintment Lake	5600	c					
Denio Creek[e]	6000	c					
Disaster Peak	6500	c					
Emigrant Butte	5000	c					
Fish Creek	7900	c					
Hart Mountain[e]	6350	c					
Idlewild Camp	5200	4/27	0	0.0	0.0	- -	1
Izee Summit	5293	4/27	0	0.0	T	1.6	5
Lake Creek	5120	c					
Oregon Canyon[e]	6950	c					
Riddle Creek[e] (Buck Pasture)	5700	c					
Rock Spring	5100	4/27	0	0.0	0.0	- -	1
Silvies[e]	6900	c					
Snow Mountain	6300	c					
Starr Ridge	5150	4/27	0	0.0	0.0	0.9	5
Stinking Water	4800	f					
Trout Creek[e]	7800	c					
"V" Lake[e]	6600	c					

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not surveyed. (h) Partly estimated. (i) No Fall measurement. (j) Nearest current data.

HARNEY BASIN WATERSHEDS



WATERSHED LOCATION

10 0 10 20 30
SCALE IN MILES

N

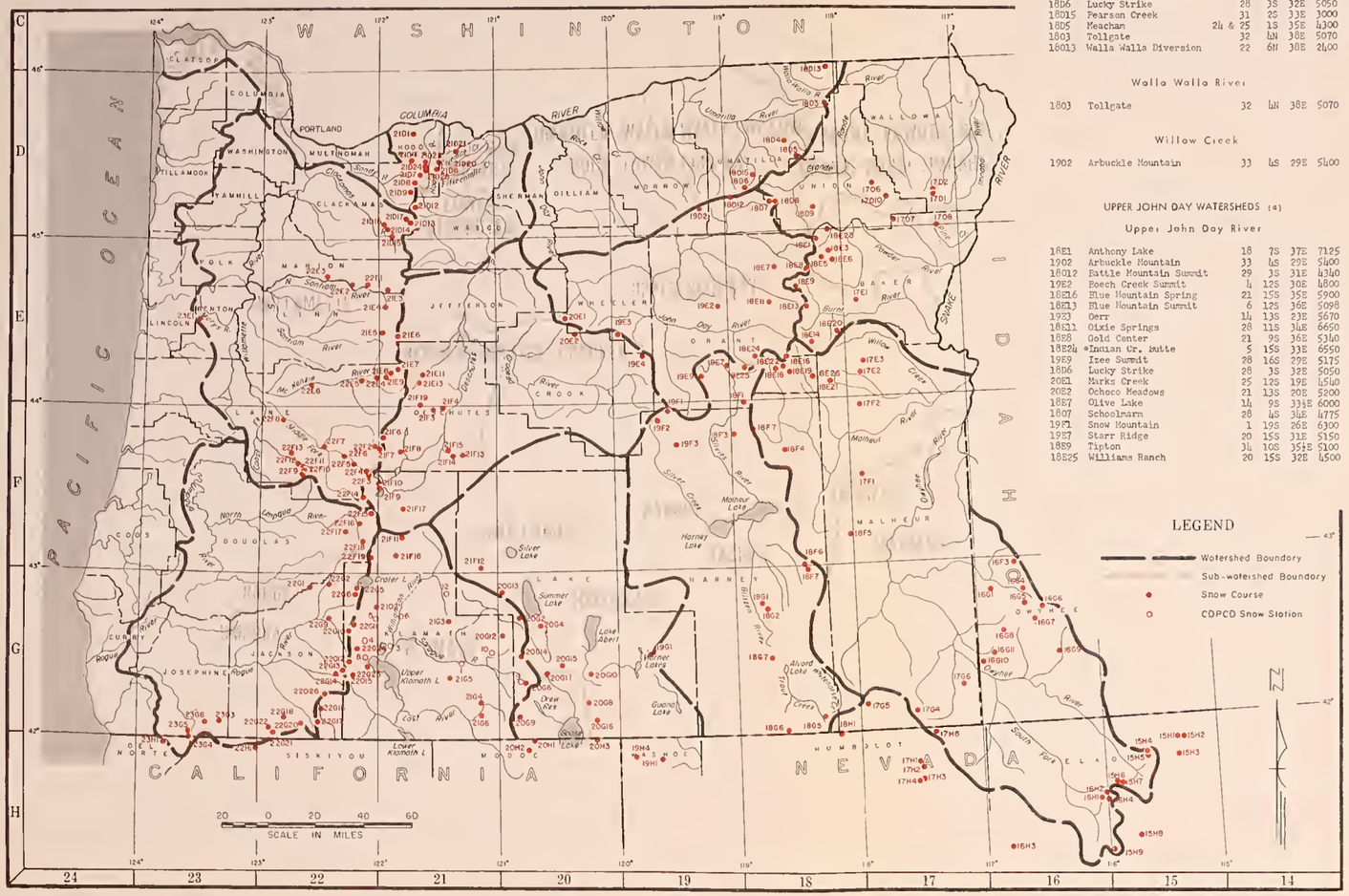
LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Aerial Snow Depth Gage
- Soil Moisture Station

OR-12c

"The Conservation of Water begins with the Snow Survey"

Map and Index to OREGON SNOW COURSES



OWYHEE, MALHEUR WATERSHEDS (1)

Owyhee River

NUMBER	NAME		LOCATION SEC.	TWP.	RGE.	ELEV.
1606	Antelope Ridge	(Ida)	32	8S	1W	5900
1805	Barren Valley		26	27S	38E	4200
1609	*Battle Creek	(Ida)	10	11S	1E	5700
1501	Bear Creek	(Nev)	31	41N	58E	7800
1514	Big Bend	(Nev)	30	45N	56E	6700
1702	Buckskin, Lower	(Nev)	25	45N	39E	6700
1701	Buckskin, Upper	(Nev)	11	45N	39E	7200
16010	*Bull Basin	(Ida)	29	12S	5W	5470
1801	Disaster Peak	(Nev)	8	47N	34E	6500
1802	Fish Creek		4	33S	33E	7900
1512	Fox Creek	(Nev)	33	46N	58E	6800
1517	Fry Canyon	(Nev)	31	43N	54E	6700
1515	Gold Creek	(Nev)	31	45N	56E	6600
1704	Granite Peak	(Nev)	22	44N	39E	7800
1605	*Hyde Pasture	(Ida)	31	8S	2W	5800
1611	Jack Creek, Lower	(Nev)	18	42N	53E	6800
1612	Jack Creek, Upper	(Nev)	9	42N	53E	7250
1614	Jack Peak	(Nev)	28	42N	53E	8420
16011	*Juniper Mtn.	(Ida)	32	11S	1W	6500
1706	Lonkout Butte		2	40S	47E	5650
1704	*Lounc Canyon		27	40S	41E	6140
1703	Martin Creek	(Nev)	18	44N	40E	6700
1613	Midas	(Nev)	16	39N	46E	7200
1607	Mud Flat	(Ida)	34	9S	2W	5500
1608	*Nickel Sheep Camp	(Ida)	23	10S	1W	5450
1705	*Oregon Canyon			8	40S	40E	6950
1716	*Quinn Ridge	(Nev)	9	47N	41E	6300
1516	Rodeo Flat	(Nev)	36	43N	53E	6800
1510	T4 Creek	(Nev)	6	44N	58E	7100
1701	Shumway Ranch		29	23S	39E	4400
1603	Silver City	(Ida)	6	5S	3W	6400
1801	Silvies		35	22S	32½E	6900
1601	South Mountain No. 2	(Ida)	35	7S	5W	6340
1519	Taylor Canyon	(Nev)	35	39N	53E	6200
1518	Tenewan Ranch	(Nev)	9	39N	55E	5700
1604	*Triangle	(Ida)	25	7S	3W	5150
1805	*Trout Creek		10	41S	38E	7700
1807	*Yun Lake		31	35½S	32½E	6600

Malhour River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
1814	Barney Creek	16	41S	36E	5950
1816	Blue Mountain Spring	21	15S	35E	5900
1713	Bonita	5	16S	40E	4600
1821	*Bully Creek	10	17S	37E	5300
1817	*Call Meadows	29	20S	33E	5340
1712	Clover Creek	36	16S	29E	4100
1712	*Cottonwood-Indian	10	19S	29E	4320
1819	Crane Prairie	24	16S	11E	5375
1820	Eldorado Pass	20	14S	38E	4600
1826	*Flag Prairie	32	16S	36E	4750
1818	Lake Creek	10	16S	33½E	5120
1816	Riddle Creek	21	29S	35E	5800
1821	Rock Spring	23	18S	32E	5100
1711	Shumway Ranch	29	23S	39E	4400
1811	Stinking Water	33	21S	31E	4800
1822	*Logan Valley	13	16S	33½E	5100

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS (2)

Burnt River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
1814	Barney Creek	16	14S	36E	5950
1813	Blue Mountain Summit	6	12S	36E	5098
1701	Dooley Mountain	32	11S	40E	5430
1820	Eldorado Pass	20	14S	38E	4600
1818	Gold Center	21	9S	36E	5340
1809	Tipton	34	10S	35½E	5100

Powder River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
1801	Anthony Lake	18	7S	37E	7125
1805	Bourne	33	8S	37E	5800
1701	Cooley Mountain	32	11S	40E	5430
1803	Eilertson Meadows	18	8S	38E	5400
1808	Gold Center	21	9S	36E	5340
1806	Goodrich Lake	4	9S	38E	6775
1823	Little Alps	10	7S	37E	6200
1810	Summit Springs	9	6S	37E	6000
1707	Taylor Green	3	6S	42E	5740

Pine Creek

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
1708	Schneider Meadows	35	6S	45E	5400

Grande Ronde River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
1701	Aneroid Lake No. 1	16	4S	45E	7480
1702	Aneroid Lake No. 2	16	4S	45E	7000
1801	Anthony Lake	18	7S	37E	7125
1710	*Bald Mountain	14 & 15	4S	41E	6700
1809	Beaver Reservoir	8	5S	37E	5340
1808	County Line	28	4S	34E	4800
1806	Lucky Strike	28	3S	32E	5050
1805	Meachan	24 & 25	1S	35E	4300
1706	Moss Spring	28	3S	41E	5550
1807	Schoolmarm	28	4S	34E	4775
1707	Taylor Green	3	6S	42E	5740
1803	Tollgate	32	4N	38E	5070

Imnaha River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
1701	Aneroid Lake No. 1	16	4S	45E	7480
1702	Aneroid Lake No. 2	16	4S	45E	7000

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS (3)

Umatilla River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
1902	Arbuckle Mountain	33	4S	29E	5400
1812	Battle Mountain Summit	29	3S	31E	4340
1804	Emigrant Springs	29	1N	35E	3925
1806	Lucky Strike	28	3S	32E	5050
1815	Pearson Creek	31	2S	33E	3000
1805	Meachan	24 & 25	1S	35E	4300
1803	Tollgate	32	4N	38E	5070
1803	Walla Walla Diversion	22	6N	30E	2400

Walla Walla River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
1803	Tollgate	32	4N	38E	5070

Willow Creek

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
1902	Arbuckle Mountain	33	4S	29E	5400

UPPER JOHN DAY WATERSHEDS (4)

Upper John Day River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
1801	Anthony Lake	18	7S	37E	7125
1902	Arbuckle Mountain	33	4S	29E	5400
1812	Battle Mountain Summit	29	3S	31E	4340
19E2	Beech Creek Summit	4	12S	30E	4800
18E16	Blue Mountain Spring	21	15S	35E	5900
18E13	Blue Mountain Summit	6	12S	36E	5098
1903	Derr	14	13S	23E	5670
1811	Dixie Springs	28	11S	34E	6650
18E8	Gold Center	21	9S	36E	5340
1824	*Indian Cr. Butte	5	15S	33E	6550
19E9	Izee Summit	28	16S	29E	5175
18D6	Lucky Strike	28	3S	32E	5050
20E1	Marks Creek	25	12S	19E	4540
20E2	Ochoco Meadows	21	13S	20E	5200
18E7	Olive Lake	14	9S	33½E	6000
1807	Schoolmarm	28	4S	34E	4775
1901	Snow Mountain	1	19S	26E	6300
1907	Starr Ridge	20	15S	31E	5150
18E9	Tipton	34	10S	35½E	5100
18E25	Williams Ranch	20	15S	32E	4500

UPPER DESCHUTES, CROOKED WATERSHEDS (5)

Upper Deschutes River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
21E11	Black Pine Spring	14	16S	9E	4600
21E8	Caldwell Ranch	30	21S	8E	4400
22F3	Cascade Summit	7	23S	6E	4850
21F7	Charlton Lake	23	21S	6E	5750
21F11	Chemult	21	27S	8E	4760
21F14	Fire Road	36	21S	11E	5050
21E6	Hong Pass	24	13S	7½E	4755
21F4	Hunery Flat	30	18S	11E	4400
21F6	Irish-Taylor	25	20S	6E	5500
21F17	Mowich	29	25S	2S	4700
21F10	New Crescent Lake	11	24S	6E	4800
21F19	New Dutchman Flat #2	21	18S	9E	4400
21F13	Paulina Lake	14	21S	12E	6230
21F15	Paulina Prairie	28	21S	11E	4285
21F3	Tangent	28	18S	10E	5400
21E13	Three Creek Meadows	3	17S	9E	5600
22F2	Waldo Lake	15	21S	6E	5500
22F14	Willamette Pass	33	24S	51E	5600
22F15	Windigo Pass	20	25S	6E	5800

Crooked River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
19E3	Derr	14	13S	23E	5670
20E1	Marks Creek	25	12S	19E	4540
20E2	Ochoco Meadows	21	13S	20E	5200
19F1	Snow Mountain	1	19S	26E	6300
19E4	Tamarack	8	15S	25E	4800

HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS (6)

Hood River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
21D6	Brooks Meadows	2	2S	10E	4300
21D25	Cooper Spur	6	2S	10E	3350
21D1	Greenpoint Reservoir	20	2N	9E	3400
21D20	Knebal Springs	31	1S	11E	3850
21D23	Parkdale	6	1S	10E	1940
21D8	Phlox Point	6	3S	9E	5600
21D4	Red Hill	21	1S	9E	4400
21D9	Still Creek	25	3S	8½E	3700
21D7	Tilly Jane	15	2S	9E	6000
21D21	Ulrich Ranch Junction	28	1S	11E	3350
21D24	Upper Valley	20	1S	10E	2510

Mile Creeks - Mosier Creek

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
21D6	Brooks Meadows	2	2S	10E	4300
21D20	Knebal Springs	31	1S	11E	3850
21D21	Ulrich Ranch Junction	28	1S	11E	3350

Lower Deschutes River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
21D12	Clear Lake	29	4S	9E	3500
21E6	Hogg Pass	24	13S	7½E	4755

LOWER COLUMBIA WATERSHEDS (7)

Sandy River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
21D8	Phlox Point	6	3S	9E	5600
2109	Still Creek	25	3S	8½E	3700

WILLAMETTE WATERSHEDS (8)

Clackamas River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
21D15	Big Bottom	25	6S	7E	2118
21D13	Clackamas Lake	35	5S	8½E	3400
21D12	Clear Lake	29	4S	9E	3500
21D16	Lake Harriet	4	6S	7E	2045
21D14	Peavine Ridge	14 & 15	6S	7E	3500
21D8	Phlox Point	6	3S	9E	5600
21D9	Still Creek	25	3S	8½E	3700
21D17	Timothy Lake	26	5S	8E	3295

Santiam River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
22E1	Detroit (town)	1	10S	5E	1610
22E2	Detroit Dam	7	10S	5E	1580
21E6	Hogg Pass	24	13S	7½E	4755
21E4	Marion Forks	28	11S	7E	2730
22E3	Mill City	29	9S	3E	826
21E5	Santian Junction	14	13S	7E	3990
21E3	Whitewater Bridge	28	10S	7E	2175

McKenzie River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
21E8	Dead Horse Grade	13	16S	7E	3600
22E4	Lost Creek Ranch	24	16S	6E	1746
21E7	McKenzie	35	15S	7½E	4700
22E5	McKenzie Bridge	13	16S	5E	1372
22E6	Vida	28	16S	2E	800
21E9	White Branch Slide	15	16S	7E	2800

Middle Fork Willamette River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
22F3	Cascade Summit	7	23S	6E	4880
21F7	Charlton Lake	23	21S	6E	5750
22F6	McCredie Springs	36	21S	4E	2120
22F8	Meridian Dam	13	19S	1W	750
22F7	Oakridge	16	21S	1E	1310
22F5	Railroad Overpass	27	22S	5E	2750
22F4	Salt Creek Falls	33	22S	6E	1000
22F2	Waldo Lake	15	21S	6E	5500
22F1	Willamette Pass	33	24S	5½E	5600

Coost Fork Willamette River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
22F9	Champion	12	23S	1E	4500
22F10	Golden Curry Creek	1	23S	1E	3136
22F13	Layng Creek R. S.	31	21S	1E	1200
22F12	Lund Park	22	22S	1E	1740
22F11	Weaver Creek	35	22S	1E	2440

Mary's River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
23E1	Mary's Peak	21	12S	7W	3620

ROGUE, UMPQUA WATERSHEDS (9)

Rogue River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
2304	Althouse	17	41S	7W	4530
2206	Annie Spring	19	31S	6E	6018
22021	Big Red Mountain	31	40S	1W	6500
22013	Billie Creek Olvido	30	36S	5E	5300
22F19	Diamond-Crater Summit	34	28S	6E	5800
22014	Fish Lake	3	37S	1E	4465
22012	Fourmile Lake	9	36S	5E	6000
2303	Grayback Peak	9	40S	5W	6000
23H1	Hazel View (Cal)	9	46N	4E	2500
22017	Hobart Lake	17	40S	3E	5010
20026	Howard Prairie	32	38S	4E	4500
22016	Hyatt Prairie Reservoir	15	39S	3E	4900
22022	Little Red Mountain	25	40S	2W	6500
2306	Oregon Caves	16	40S	6W	4000
2305	Page Mountain	8	41S	7W	6045
2205	Park Headquarters	8	31S	6E	4450
22H1	Scraggy Mountain (Cal)	9	47N	10W	6200
22010	Seven Lakes No. 1	3	34S	5E	6800
22011	Seven Lakes No. 2	26	33S	5E	6200
2202	Silver Burn	30	30S	1E	3720
22020	Siskiyou Summit	17	40S	2E	4630
2209	South Fork Canal	12	33S	1E	3500
22018	Wagner Butte	1	40S	1W	6900
2201	Whaleback	3	31S	2E	5140

Umpqua River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
22F9	Champion	12	23S	1E	4500
22F18	Diamond Lake	29	27S	6E	5315
2307	Eden Valley Summit	10	32S	10W	2390
22F16	North Umpqua	19	26S	6E	4215
22F20	Quartz Mtn. No. 1	2	28S	1E	4500
22F21	Quartz Mtn. No. 2	22	28S	1E	4000
22F22	Quartz Mtn. No. 3	27	28S	1E	3700
22F23	Red Butte No. 1	36	27S	2W	4560
22F24	Red Butte No. 2	30	27S	1W	4000
22F17	Trap Creek	1	27S	4E	3800
2201	Whaleback	3	31S	2E	5140
22F15	Windigo Pass	20	25S	6E	5800

KLAMATH WATERSHEDS (10)

Klamath River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
2206	Annie Spring	19	31S	6E	6018
22013	Billie Creek Olvido	30	36S	5E	5300
2105	Ely Mountain	15 & 22	37S	11E	5090
21F11	Chemult	21	27S	8E	4760
22024	Cold Springs Camp	12	35S	5E	6100
20G12	*Crazyman Flat	9	34S	15E	6100
20H2	*Crowder Flat (Cal)	30	47N	11E	5200
22F19	Diamond-Crater Summit	34	28S	6E	5800
21F18	Diamond Lake Jct. (97)	1	29S	7E	4600
2106	*Dog Hollow	1	40S	1½E	4700
2001½	*Finley Corrals	11	36S	10E	6000
22012	Fourmile Lake	9	36S	5E	6000
2104	Gerber	12	39S	13E	4850
22016	Hyatt Prairie Reservoir	15	39S	3E	4900
22026	Howard Prairie	32	38S	4E	4500
22015	Lake of the Woods	11	37S	5E	4960
2205	Park Headquarters	8	31S	6E	4450
22025	Pelican Guard Station	9	36S	6E	4150
2006	Quartz Mountain	2	38S	16E	5320
22010	Seven Lakes No. 1	3	34S	5E	6800
22011	Seven Lakes No. 2	26	33S	5E	6200
20H1	*State Line (Cal)	21	48N	11E	5750
2009	Strawberry	4	40S	1E	5650
2002	Summer Rim	15	33S	16E	7200
2102	Sun Mountain	22	32S	7½E	5350
20G13	*Sycan Flat	25	31S	14E	5500
2103	Taylor Butte	16	33S	11E	5100

The California Oregon Power Company's Snow Stations

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
1	Beatty (COPCO)	22	36S	12E	4300
10	Ely 101 Ranch (COPCO)	22	35S	11E	4800
3	Chiloquin (COPCO)	34	34S	7E	4197
4	Crystal (COPCO)	26	34S	6E	4200
5	Fort Klamath (COPCO)	22	33S	7½E	4150
8	Harriman Lodge (COPCO)	3	36S	6E	4200
6	Kirk (COPCO)	1	33S	7E	4533
9	Quartz Mountain (COPCO)	33	37S	16E	5504
12	Yamsay (COPCO)	20	31S	11E	4600

LAKE COUNTY, GOOSE LAKE WATERSHEDS (11)

Goose Lake

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
2001S	*Bear Flat Meadow	27	36S	19E	5900
2003	Camas Creek	5	39S	21E	5720
20011	*Cox Flat	16	37S	18E	5750
20016	*Crane Mountain	13	40S	21E	6020
20H2	*Crowder Flat (Cal)	30	47N	11E	5200
20H3	*Diesel Swamp (Cal)	31	48N	16E	7000
2006	Quartz Mountain	2	38S	16E	5320
20H1	*State Line (Cal)	21	48N	11E	5750
2009	Strawberry	4	40S	16E	5600

Abert Lake

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
20015	*Bear Flat Meadow	27	36S	19E	5900
20011	*Cox Flat	16	37S	18E	5750
2001½	*Finley Corrals	11	36S	16E	5800
2004	Mill Creek	1	34S	17E	6200
2006	Quartz Mountain	2	38S	16E	5320
20010	*Sherman Valley	15	37S	21E	6600

Summer Lake

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
2002	Summer Rim	15	33S	16E	7200

Silver Lake

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
21F12	Silver Creek	25 & 26	22S	13E	4000
20013	*Sycan Flat	25	31S	14E	5500

Warner Lake

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
2003	Camas Creek	5	39S	21E	5720
20016	*Crane Mountain	13	40S	21E	6020
20H3	*Diesel Swamp (Cal)	31	48N	22E	7000
1901	Hart Mountain	1	36S	25E	6350
20010	*Sherman Valley	15	37S	21E	6600

Guano Lake

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
19H1	Bald Mountain (Nev)	17	45N	21E	6720
1901	*Hart Mountain	1	36S	25E	6350
19H4	*Mosquito Lake (Nev)	8	45N	19E	6000

HARNEY BASIN WATERSHEDS (12)

Silvies River - Silver Creek

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
18F7	*Call Meadows	29	20S	33E	5340
1902	Bellmont Lake	28	19S	26E	5600
19F3	Folgrant Butte	14	21S	27E	5000
18F3	Idlewild Camp	33	20S	31E	5200
19E9	Izee Summit	28	16S	29E	5293
18F1	Rock Spring	23	18S	32E	5100
1901	Snow Mountain	1	19S	26E	6300
1907	Starr Ridge	20	15S	31E	5150
18F4	Stinking Water	33	21S	31E	4800

Donner Und Blitzen River

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
18F6	*Duck Pasture (Riddle Cr.)	21	29S	35E	5700
1802	Fish Creek	4	33S	33E	7650
1901	*Hart Mountain	1	36S	25E	6350
18F7	*Jenkins Homestead	34	29S	35E	5800
1801	Silvies	35	22S	32½E	6900
1817	*Yun Lake	31	35½S	32½E	6600

Trout and Whitehorse Creeks

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
1806	*Genio Creek	14	41S	34E	6000
19H1	Disaster Peak (Nev)	8	47N	34E	6500
1705	*Oregon Canyon		9	40S	40E	6950
1605	*Trout Creek	10	41S	38E	7800

* AERIAL SNOW DEPTH GAGE

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE SCS PORTLAND ORE. 1958 M-1874

7-5-19101-0

The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE
- Idaho Cooperative Snow Surveys
- Nevada Cooperative Snow Surveys
- Oregon Agricultural Experiment Station
- Oregon State Engineer and Corps of State Watermasters
- Oregon State Highway Engineers
- Soil Conservation Districts of Oregon

COUNTY
- Douglas County Water Resources Survey

FEDERAL
- Department of Agriculture
  - Cooperative Extension Service
  - Forest Service
  - Soil Conservation Service
- Department of Commerce
  - Weather Bureau
- Department of the Interior
  - Bonneville Power Administration
  - Bureau of Land Management
  - Bureau of Reclamation
  - Fish and Wildlife Service
  - Geological Survey
  - National Park Service
- Department of National Defense
  - Corps of Army Engineers

PUBLIC UTILITIES
- California-Pacific Utilities Company
- Pacific Power and Light Company
- Portland General Electric Company
- The California Oregon Power Company

MUNICIPALITIES
- City of Baker
- City of La Grande
- City of The Dalles
- City of Walla Walla

IRRIGATION DISTRICTS
- Associated Ditch Companies
- Central Oregon Irrigation District
- Deschutes County Municipal Improvement District
- East Fork Irrigation District
- Grants Pass Irrigation District
- Jordan Valley Irrigation District
- Lakeview Water Users, Incorporated
- Medford Irrigation District
- North Board of Control - Owyhee Project
- North Unit Irrigation District
- Ochoco Irrigation District
- Rogue River Valley Irrigation District
- South Board of Control - Owyhee Project
- Talent Irrigation District
- Vale-Oregon Irrigation District
- Warmsprings Irrigation District

PRIVATE ORGANIZATIONS
- Amalgamated Sugar Company
- The Crag Rats, Hood River, Oregon

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